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Wirelessly Wired

letter from the editor

These days, you can't talk about telecommunications and technology without mentioning the word "wireless." Only when you're totally wireless can you consider yourself maximally wired.

Wired to the max means you don't have to worry when and where you do something. You can float between bedroom, kitchen, office, and playroom without tripping over door frames because doors become insignificant.

While it seems that everyone is leaping boldly into the future however demographer David Foot (of *Boom, Bust & Echo* fame) cautions that "new technology is very difficult to integrate in an aging population. You better make it user friendly. No way is a 3,000 page book from Microsoft going to help me. I don't have the time to read it." Canada is definitely an aging population (witness the millions of boomers turning 50 this year) and "user friendly" has great implications on what becomes a trend.

According to Foot cell phones are accessible to everyone because they resemble traditional phones—anyone can learn to use one almost immediately. Acceptance of fax machines takes slightly longer: about six months, and it at least resembles a printer.

As for personal computers, Foot says that although the keyboard looks like a typewriter most boomers will stay away from the Internet.

Friendly, but costly

How does this pan out in Canada? According to a recent Statistics Canada survey only 7.4 per cent of Canadian households access the Internet from their home computers. According to Cantel up to 12 per cent of Canadians already have cell phones. If cell phones are so user-friendly shouldn't their usage be higher? My guess is that it would be if they cost less to use.

In fact that could be why we are inundated with new and innovative takes on the phone. Having one of these new phones may not make you wired in the full sense of the word but it does lift you into the clan of the wireless—quite an effortless way to join the technological revolution!

For example Bell Mobility's Converto, launched last summer, is a cellular phone that automatically converts to a cordless phone once you're back home. According to a press release this gives you "the ability to stay in touch much more easily as you move from the cellular network to your home, work place or cottage." What an easy way to keep people from worrying about which side of the door they're on when the phone rings! Use Converto and presto—you're wireless but the basic technology remains the same.

Clearnet's "Mike" wireless business-communications system, which combines numerous telecommunications features (pager fax mobile phone two-way radio) in one handy little unit, is the precursor to similar products for individuals.

Internet phones—currently not hand-held like the phones we're used to although some have interfaces resembling cell phones—go one step further by holding out the promise of long-distance calling without long-distance charges.

Here, however you need to use a computer and are thus in a sense grounded. Talking long distance via the Internet is is also still quite complicated. Besides a multimedia computer you need a sound card, microphone, Internet connection and phone software identical to the person with whom you're talking.

Who indeed

But who knows what the future will bring? Perhaps in a few years Internet phone technology will have merged with Converto or Mike so that you'll be walking down the street in Vancouver talking long distance to a friend trekking in Nepal and surfing the Web at the same time—at no additional charge.

In fact Northern Telecom and Sun Microsystems have already teamed up to incorporate Sun's Java software platform and Java-powered chips into telephones so that Internet services could be accessed on screen-based telephones as early as next year.

Will boomers accept this technology? Perhaps—if their fingers can still do the walking.

Ultimately even though the future phones we'll be using will seem a logical extension of the phones our grandmothers used, they will have evolved so dramatically that they will be the same only in name. At that point wireless really will be synonymous with wired.

Enjoy the issue!
Mara Gulens Editor-in-Chief
editor@tcpon.com

Your letters please

Letters on issues raised in the paper or general computer topics are welcome. Please be brief. We regret that we are unable to look up stories from past issues, suggest products or solve all your computer problems. Only those with name and e-mail or snail mail addresses will be published. Letters may be edited for space or content.

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No help, eh?

I recently discovered a "bug" with Windows NT: no Canadian technical support. NT users are forced to call Washington for tech. support, whereupon they get a busy signal.

I doubt the same could be said for OS/2.

Given the growing movement to NT 4.0, Microsoft should strongly reconsider this policy. Myles White may want to verify this finding.

R. Jaworski, Via the Internet

Word is, all tech. support is handled out of the United States.

I disagree

In response to Ian Simpson's letter "I have two questions" (Vol. 5 No. 10)

When you say "There is simply no way around this" I have to disagree.

Simply point your browser in the direction of the "ANONYMIZER" at http://www.anonymizer.com/open.html then visit the web site http://www.paenes.com/status.cgi and you will see that when you are wearing the mask they will not know who your Internet Service Provider is.

N. Vea 19890 41 ave, Via the Internet

Love the OS/2 Coverage

I just wanted to say "Thanks" for the OS/2 coverage in your newspaper.

Lots of other publications don't give this operating system as much or as favorable coverage as it deserves. Kevin Linfield's writing is appreciated.

Gordon Selder, via the Internet

Coming up next issue

Holiday Gift Ideas
For everyone on your shopping list

The Perfect Family PC
Choosing the Right Home Computers

Gaming
Marc's Top Ten List

Using interactive television to teach can be a juggling act

• • By JUNE CAMPBELL • •

Students of the Introductory Herbology course taught simultaneously at Douglas College in New Westminster and Camosun College in Victoria are experiencing a new approach to an age-old subject. Don Rost, class instructor and Master Herbalist, is using interactive television (ITV) combined with a custom-designed *PowerPoint* presentation to teach his geographically divided students.

Two large monitors at the front of the room display the *PowerPoint* presentation and the students from the distant class. Rost must simultaneously operate the switcher, focus a movable camera, run the ELMO projector, ensure that his directional PZN microphone is operational, deliver his lectures, and attend to the human requirements of his students.

"It's a juggling act more than anything," he remarks.

While ITV is not a particularly new approach to teaching, Rost and Bruce Clarke, Douglas College's Media Maintenance technician, have jointly produced what may be one of the most cutting-edge approaches to ITV in the province.

Step one: Glitch removal

First Rost had to overcome a number of glitches to design a *PowerPoint* presentation suitable for conversion to TV signal. Since the *PowerPoint* files can be as big as 18 megabytes per class, a pentium 90 MHz with a large hard drive and at least 16 MB of RAM was needed.

Colour palettes presented specific problems. The graphics were first developed in a software package using millions of colours, then indexed to 256 colours before being imported into *PowerPoint*. Conversion from digital image to analogue NTSC (National Television Standards Committee) further distorts colours (NTSC is jokingly said to mean "Never Twice the Same Colour!")

Maintaining resolution was another challenge. Accommodations had to be made to overcome the blurring of fine lines and text created when VGA resolutions of 640H by 480V pixels were converted to NTSC resolutions of 525 lines.

During broadcast the *PowerPoint* presentations are played on the computer and are converted to analogue television signal using the affordable and effective Aver Key 3 standards converter. Manufactured in Richmond by ADDA Technologies, the Aver Key is available for around $500.

Lights...

Camera choices and placements were another challenge. Clarke selected Sony SSC-C370 High Resolution Solar Video Cameras, small surveillance cameras that produce surprisingly good quality video at a fraction of the price of the Beta Cam or even Hi-8 camera. A total of ten cameras (one fixed and one movable) are used. This setup allows a ratio of two students per camera, plus one movable camera focused on Rost. On the Camosun College side one movable camera covers four students.

Douglas College and Camosun College are subscribers to BC Tel's Ubiquity Network Services, a premium videoconferencing service that is a unique, proprietary system to British Columbia. The Ubiquity system delivers relatively uncompressed video with full resolution output. Offering both point-to-point and multipoint conferencing, the service is only available between and among subscribers to the system.

No unalloyed joys

Rost and Clarke stress that this method of long-distance teaching is still experimental and has both pluses and minuses.

On the minus side, planning and development is extremely time-consuming, expenses are higher than in ordinary teaching, and the aspect of teacher-student interaction can be more difficult. There is also a substantial adjustment period for both instructor and students.

On the plus side, this method has the potential to level the playing field and to make education accessible to people who were previously restricted due to geographical location or low class-size.

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New Information Technology curriculum for BC schools may be too ambitious

• • By DAVID ANDERSON • •

The Ministry of Education in Victoria British Columbia has produced an intriguing document called *Information Technology K to 12* a comprehensive program of technology studies for all grades throughout BC public schools Implementation is to begin in 1997 for grades 11 and 12 and in 1998 for everybody else.As plans go it isn't bad overall but some of the assumptions it makes about the state of technology instruction in this province are thought-provoking, to say the least.

The Information Technology curriculum takes the position that every school subject has a component of technology education and that classroom teachers of every grade have the responsibility to include these components in their basic programs of instruction Examples describe activities for each grade level in various subject areas such as Art, Physical Education Math Career and Personal Planning, Social Studies, Language Arts and Science

Further the curriculum suggests that there are three levels of skill development for every grade level foundations, process and presentation Foundations provide students with the fundamental knowledge skills and attitudes needed for a lifetime of using information technology Process allows students to select organize and modify information to solve problems. Presentation provides students with an understanding of how to communicate ideas effectively using a variety of information media.

Tool time

The new curriculum brings together a variety of technology tools such as tape recorders, camcorders VCRs, overhead projectors, telephones, and fax machines as well as computers capable of importing, producing, editing and presenting multimedia material The new plan places an emphasis on issues of ergonomics security of personal information, ethics, and the safe use of these tools.

Of particular benefit to students is the focus on the skills of troubleshooting and using online help screens. Self-reliance is a prescribed learning outcome and it is to be practiced and exercised from kindergarten up to grade 12

In the intermediate grades the program includes many opportunities to produce slide show presentations that include sound and graphics as well as text, to express specific ideas. The program also directly addresses issues of bias relevance, and the validity of electronic information from sources including CD-ROM encyclopedias and the Internet.

In many ways the Information Technology package is the embodiment of some of the very best teaching that is now going on in the province For example students at Strathcona Elementary School in Vancouver have been producing hypertext presentations including digital photography text animations and student narration, for several years now Their work can be viewed at their Web site At Wolfe Elementary School also in Vancouver there is a multimedia-authoring project successful enough to be offered as a city-wide enrichment program.

These are relatively rare situations however The success or failure of this venture into the twenty first century will depend on the ability of the provincial government to make good on its promise to supply all schools with the hardware and software to accomplish the laudable goals of the new curriculum Since the vast majority of computers in our public schools are far below the minimum standard required to produce and manipulate multimedia files, someone in Victoria will have to come up with a magic spell to turn all the Apple IIe and the Commodore 64 machines into Pentium screamers with 16 MB of RAM

Who teaches the teachers?

Even more challenging is the supposition that all classroom teachers in the province will be trained to instruct their students in the areas

continued on page 16

INFO BOX

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http://www.gov.bc.ca/
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http://www.vsb.bc.ca/
Strathcona Elementary School
http://www.vsb.bc.ca/

Triton name eliminated

Intel Corp has done away with the name "Triton," formerly used to describe the support chipsets the company produces for Pentium/PCI motherboards, just as retailers and consumers alike were getting accustomed to asking for them by that name

• • By MYLES WHITE • •

Instead of Triton, Triton 2 or Triton 3 the US-based chip maker has renamed the four sets in the series Intel 430FX PCIset, Intel 430VX PCIset, Intel 430HX PCIset and Intel 430MX PCIset.The distinctions are important to consumers because depending on who is doing the counting, the chipsets appear on half to two-thirds of the motherboards currently in the market when you count boards with Intel's brand on them, boards Intel manufactures for other companies and boards designed by other manufacturers using Intel's chipsets.

A motherboard's chipset controls a number of its functions including board speed, bus architecture utilization memory configuration and compatibility with peripherals.

The 430FX PCIset is the oldest of the variations and was formerly known as Triton or Triton FX It supports EDO (extended data out) memory and pipeline burst SRAM (static RAM—cache memory) but doesn t support newer innovations such as SDRAM (synchronous DRAM—see this month's White s Bytes for more on new memory types) or Universal Serial Bus (USB) architecture

The 430VX PCIset is the most likely to show up on systems designed for the home market. It supports EDO pipeline burst SRAM SDRAM and USB, as well as "concurrent PCI" (which allows simultaneous activity in CPU ISA expansion bus, and PCI local bus) The 430VX also allows for implementation of shared memory buffer architecture (also known as unified memory architecture) which will permit some system manufacturers to use memory from the system s video controller in place of more expensive cache memory (the performance isn t as good, but it is better than nothing at all).

The 430HX says Intel is designed for more robust business applications By tweaking EDO memory timings the company says it will deliver 10 per cent better performance than a board with the VX chipset. It supports EDO memory up to 512 MB but not SDRAM Like the 430VX it also supports pipelined burst SRAM USB and concurrent PCI

The 430MX is only for notebook computers While it supports hot docking and CPU bus speeds up to 66 MHz it doesn t support EDO SDRAM, concurrent PCI or USB

More information on Intel's Pentium chipsets as well as chipsets for Pentium Pro systems is available at the company's Web site at http://www.intel.com/ ◆

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BC used-computer scene thriving

BC shoppers with computers on their Christmas lists could have an alternative to spending big bucks on a brand-new system. Let your fingers do the walking through the Vancouver or Victoria Yellow Pages and you will locate several listings of businesses that sell, consign or refurbish used computers and peripherals

• • By JUNE CAMPBELL • •

You may discover just what you want at a very affordable price—and if you lust for a missing feature most shops will accommodate you by installing a new or used techno-toy to suit your whim.

At Encore Computers in North Vancouver a budget priced (and loaded!) Pentium 166 immediately caught my eye According to owner John Wiggins the item was a demo model shown at displays and conferences and yes, if I wanted his team of technicians could install a new video-capture card and a SCSI card before sending it home with me. Supposedly I could leave my current computer on consignment, and possibly even mix and match features of the two systems when negotiating a custom deal.

Art Skill owner of Poulson's Office Products and Modern Business Machines in Vancouver offers a somewhat different slant—a trade-in arrangement for your present system. "Most computer retailers won t take trade-ins. Since we sell both new and used machines we can offer a unique service—and we refurbish as required We take an old machine, increase the RAM upgrade from a 286 to a Pentium—whatever is needed"

Poulson's may be Vancouver's oldest used computer shop—they started out as a rebuilt typewriter business in 1965 and evolved gradually into their current reincarnation.

Victoria shoppers can visit one of Canada's first used computer stores—Boomers Computer Exchange Corp. opened in 1993 by Brian Beaupre

If Beaupre is around when you visit he may discuss some of the issues and challenges he originally faced as the initiator of a new concept Under city bylaws at the time for example Boomers was classified as a pawnbroker Boomers is now the biggest shop of this nature on Vancouver Island possibly in British Columbia.

Offering "one-stop shopping," Boomers takes used computers on consignment sells new systems and refurbishes or rebuilds older systems

Your mileage may vary

Most used-computer shops offer a guarantee or warranty although terms vary from shop to shop All stores provide initial inspection and testing prior to accepting a used computer but the extent of the testing differs from place to place.

Qualified technicians are usually kept on staff to test, refurbish and repair the products, as well as to provide product support but the nature and duration of this support differs. As Beaupre says "Technicians have to be very skilled to work in these stores They have to know something about all types of systems—Macs PCs clones, old new and everything in between And they must have the ability to talk to customers with widely varying degrees of computer expertise"

Shop owners stress that customer service and customer satisfaction are imperative to their business operations. Goodwill and word-of-mouth referral are vital in this type of industry as is consumer education Most stores provide informal coaching or tutoring to customers as needed

For example the owner of PC Galore another Vancouver shop has participated in a radio talk show to increase consumer information and Beaupre writes a newspaper column addressing computer issues

Everybody does it

Who buys used computers? Almost everybody according to the shop owners Customers include students needing an affordable way to do word processing, seniors wanting to try out the Internet lawyers setting up shop school boards, HAM radio operators looking for XTs people wanting an economical machine for a print server entry-level users wanting to get their feet wet and high-end users looking for a good deal.

Moreover there's a social aspect to this type of shopping In some locations customers chat exchange tips hand out business cards and make contacts Other shops

continued on page 13

Don't be afraid to buy used—but be careful

Tips from the experts

Ian Stark. "These days, the 3.5-inch floppy drive is, together with power supplies, one of the things likely to give the most trouble That's because disks aren't used much any more and a lot of dust accumulates inside them In fact, one of the first things our technicians do is to blow them out."

Mike Xie. Buying used from a store? Don't do so without at least a 90-day warranty Xie gives his customers 100 days,

Stan Nowak. Set the computer software for a VGA picture If the picture's okay, make sure it's also satisfactory with an SVGA setting

• • By LEE LESTER • •

Is buying a used computer a mug's game? No Can you buy cheaply safely? Yes.

Those are the answers given by the experts, computer dealers who specialize in selling used computers and in repairing them You do, however, have to take some elementary precautions

The first, according to Ian Stark, PC remarketing director at CDI Computer Dealers Inc., is checking whether the computer has been stolen and that it has no liens on it.

"Ask the seller to show you a bill of sale," he advises

Look at the general appearance of the machine Is it dusty or fingermarked? Those are the telltale signs that indicate it has been neglected with little or no maintenance Stark also suggests taking your favourite program with you to see how it behaves on your prospective purchase

Does the machine crash? Is it slow? Do all the keys on the keyboard work properly?

"If you have some analytical software run that. *Disk Doctor* or *Norton Utilities* will do if you don t have specialized software," he says.

Macs last longer

Stark suggests that buying a PC older than a 386 is not a worthwhile proposition but he says Macintosh IIsi and IIci models—which date back to 1989—can still give good service and run most of today's Mac software including the *System 7* operating system.

"In general don't buy any Mac with less than a 68030 processor," he advises.

Mike Xie owner of SPD Technologies echoes Stark's advice on buying a PC.

"Nothing over five years old or a 386," he says, adding: "Two years old is just fine You should get at least another three years out of it."

Xie says spending only a few minutes trying out a computer is not enough. Faults often take longer than that to show up

"It's not like driving a car where 10 minutes on the road is enough" he says "With a computer it is not that easy"

He says the most frequent causes of problems are power supplies and input/output cards.

Just trying the computer is not enough, declares Stan Nowak, owner of J&S Electronics. At least as much attention he says, should be paid to monitors. "Don't buy it before you try it."

Is the picture clear? Is it wavy? Does it flicker? Are the colours sharply defined? Or do they blend into each other?

Nowak favours monitors with external controls, which can often be used to correct faulty pictures without an expensive adjustment by a mechanic Best of all he says are the digital type that can be read on-screen

"They're somewhat more expensive—$50 to $70 more—but worth it," he says

See whether the picture is straight at the edges Does it bend at the sides or the top and bottom? That is what is known as the pincushion effect While external control monitors can usually deal with the problem, others may need to be opened up to do so a job for the expert

Monitoring conditions

Nowak says AAmazing and IBM monitors seem to come into his store more than other makes. He believes that may be because more of them were sold than other makes several years ago and they are now showing their age He does not much like IBM monitors, however which he says have parts thet are often less accessible than in other makes

"You may have to remove everything to get at them," he says "I don't see many from Acer or Darius, but that may be because they are newer"

Nowak has a flat charge of $75 which includes parts except for new cathode ray tubes, power supplies, and transformers It is not usually worth replacing a CRT Rather it makes financial sense to get a new monitor

"A monitor three years old is about the limit" he says "If it is older than five years you can expect some breakdowns"

A used monitor he says should sell for about half the price of a new one If you can buy for less than that, even if you need a repair, you may be getting a good buy. ◆

Demand for used computers growing for individuals, schools

• • By PAUL LIMA • •

If you want to run Windows 95 the latest Mac operating system multimedia games, or high-end business applications, you pretty well have to spend a small fortune on the latest (and allegedly greatest) computer hardware on the market.

If you don't have a computer however, and all you want to do is a bit of word processing connect to a bulletin board system send and receive e-mail (without surfing the Web) or play DOS-based computer games there is no reason why you should have to plunk down $3 000 or more for a brand-sparking-new multimedia computer

You may in fact, be in the market for a used computer

Five years ago you would be hard pressed to find a good deal on a used computer let alone a used computer retailer in the Yellow Pages. Now, in most major urban centres, you can find half-a-dozen or more used computer resellers You can also shop for used computer equipment on the Internet.

While used computer resellers were, at one time considered to be the snake-oil salespeople of the computer world, most now fully refurbish systems and guarantee them for 50 60 or 90 days

"There s still a great deal of functionality in older computer systems " says the manager of CPUsed, a used-computer retail store in Toronto

Functionality is relative—literally as I discovered when I purchased a new PC My sister found my old 386 (90 MB hard drive 4 MB RAM) to be a very functional computer compared to the dual-floppy, no hard drive pre-XT she and her husband had.

While I could have sold my 386 for about $150 (I paid $2 500 for it in 1991) I gave it to my sister so she could run *Microsoft Word 6* at home as she does in the office and entertain her grandson with a few simple shareware games that would not run on her computer

Used computer, new words

Diane Mason an author and playwright has a house full of used mostly functional computer equipment. "We only have two computers at this very moment And nothing in the house that can cope with *Netscape*" says Mason

She has a used 386 that her husband John upgraded to a 486 but had to downgrade back to a 386 because "the 486 was riddled with hardware problems" She also has a 386 laptop/luggable purloined from a company that was throwing them out "The screen didn t work but John fixed it and I now have a computer I can take to the cottage"

She had another luggable, a 286 that "weighed a ton and didn t run on batteries" that she loaned to a friend. Somebody stole it from her friend's truck, so she tried to claim it on the insurance but discovered that it was worth less than the $50 deductible

"To me when it worked it was worth its weight in gold" says Mason who is looking to buy another used 286 laptop on which to run *WordPerfect 5 1*

Keeping in touch, cheap

Christopher Greaves agrees with Mason s approach to computing The computer trainer would love to see more parents keeping in touch with their children at university using "a nifty $100 computer" connected to a local BBS and running *First Reader* (an off line mail reader) and *WordPerfect 5 1*

"Seems such a shame when tuition fees hit you up front to feel that you have to spend $2 000 on basic stuff" says Greaves As a hobby he sets up used computers for individuals who want to send and receive e-mail but don t want to spend $2 500 or more for a computer and several hundred dollars per year to connect to the Internet via an Internet service provider (ISP)

Greaves points out that individuals with 2400 bps modems and original PCs—"one of the boxes that pre-dates the IBM XT"—can subscribe to a BBS like Westonia for $40 per year At that price they get e-mail and access to most UseNet newsgroups and to BBS conferences such as NAnet and FidoNet He doesn t understand why people would spend more on ISP access to the Net—especially as it involves spending far more on a computer and modem

He compares using old PCs to learning how to drive on a 1982 Pontiac "See how you feel about driving before you invest in a new car" he says

Recycling education

School boards faced with rapidly diminishing budgets are also thinking used in order

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Internet telephony:
PRODUCTS AND ISSUES

• • By ALAN THWAITS • •

How would you like to be able to talk to anyone in the world, for as long as you wanted, without paying long-distance charges? It's a hard offer to turn down, which is precisely what a number of software companies are counting on. Sounds like a dream come true for long-distance callers, and a nightmare for telecommunications providers! Let's look briefly at the products, issues, and possibilities.

The products—software from such companies as Quarterdeck (which makes *WebTalk*), VocalTec (*Internet Phone*), Internet Telephone Company (*WebPhone*), and Camelot (*Digiphone*)—are used in conjunction with any ISP (Internet service provider). Although each comes with different bells and whistles, they all do the same thing, which is allow users to talk via the Internet. Rather than having to log onto an IRC server, and without being limited to the medium of type, callers can now communicate by voice with other users (as long as they're using the same software).

There lies one of the technology's problems. To connect and talk, you have to be using identical (not compatible, *identical*) software. Also there are some complementary hardware requirements—486 systems running at least 8 MBs of RAM are *de rigeur*. Of course, a microphone and Internet access are necessities.

Also, setup and configuration can be plagued by all those annoying gremlins that live around modems, IP addresses, and SLIP and/or PPP connections.

But me no buts

For thousands of people around the world, however, Internet telephony is alive and well and they're glorying in the freedom to log on and talk. The aforementioned software companies are looking forward to burgeoning sales.

The only folks who aren't impressed by the arrival of Internet telephony are traditional long-distance carriers. In fact, an organization of long-distance carriers calling itself ACTA (America's Carriers Telecommunication Association), last year petitioned the FCC to stop the spread of Internet telephony products. Its petition was met by arguments that the FCC lacks authority to regulate software, that the US Congress has expressed itself in favour of reduced government regulation in the telecommunications industry, and the fact that the petition wasn't supported by major long-distance carriers.

The smoke of battle hasn't cleared yet, but a beachhead has been gained. Internet telephony (in some form or other) looks like it's here to stay. Those long-distance talkers are going to be on the phone for a long time to come! ◆

"Internet Phone," times two

• • By ALAN THWAITS • •

"A rose by any other name would smell as sweet," said the famous English playwright. That's still true, even in a very different world, 400 years after said writer's demise. Still, it's worth noting that not all roses smell the same.

Here we have two Internet telephony products both called "Internet Phone." Same name, but very different products. Users and bards take note!

VocalTec Inc. of Northvale, New Jersey marketed the first *Internet Phone* in February of 1995. It was notable because it was easily installed. It worked—and it was *free*. A demo version 2.5 is still available as a download from VocalTec's Web site.

Users should note, however, that this is a half-duplex communications tool. That means it functions the same way as a speaker phone: each user takes turns listening and speaking. To VocalTec's credit, though, this basic product works well, as long as you're willing to take turns and to put up with scratchy sound.

In with the new

Since that time VocalTec has released *Internet Phone Version 3.0* which is a full-duplex product. Gone are the delays in conversation associated with half-duplex. Sound quality has also improved, which means that Internet-based telephony is now closer to normal telephone quality. The wrinkle—better technology always has its costs!—is that *Internet Phone Version 3.0* requires that users have a full-duplex sound card on their PC (one that's capable of recording and playing back at the same time) or, alternatively, two standard sound cards. Those with older half-duplex cards will have to stick with version 2.5.

The beta version of Intel's *Internet Phone*, announced in September 1996, is available as a free download from Intel's Web site.

It's designed for Pentium-processor PCs running Windows 95, a full-duplex sound card, 16 MB of RAM and either Microsoft's *Internet Explorer* or *Netscape Navigator*. It's built around Microsoft's H.323 communications standards, which Intel claims "assures that the call will go through."

Recommendations? If you're curious about Internet telephony and if your equipment isn't "state of the art," give the VocalTec Version 2.5 a try. If you're running all the bells and whistles and don't mind testing a beta product, pay a visit to Intel's site. Or get both—and find out which rose smells sweeter to you. ◆

INFO BOX

Internet Phone 3.0, from Vocaltec Inc., For more information, e-mail info@vocaltec.com or visit http://www.vocaltec.com/

Intel Internet Phone (beta version), from Intel Corp.

For more information, visit http://www.intel.com/iaweb/cpc/

Quarterdeck Webtalk

• • By LYNN GREINER • •

Quarterdeck's *WebTalk* was one of the earlier Internet phone programs but it's still one of the best. Using your normal Internet connection and the sound card in your PC you can talk with other users on the Internet, almost as though you were on the telephone.

Connections are full duplex (both parties can talk at once and hear each other, as on a regular telephone) only if your sound card supports it, otherwise you take turns talking, as though you were using a walkie-talkie (that's called half duplex). Even if your sound card doesn't currently run at full duplex, check the vendor's site on the World Wide Web as there may be a driver update.

For example Creative Labs has a new driver for the 16-bit SoundBlaster card that you can download over the Internet (from http://www.creativelabs.com/) allowing it to operate in full-duplex mode.

To use an Internet voice connection, you talk through a microphone plugged into the sound card, and listen to speakers, or through headphones. *WebTalk* includes a microphone in the box, but you need to supply your own output device. Quarterdeck even includes a second *WebTalk* license in the box that you can send to your favourite phone partner—this is useful since currently Internet phone programs only allow people to connect if they're using the same software.

You "meet" at a central site—Quarterdeck's *WebTalk* server—then, once connected, go off on your own for a private chat. If your friend has an individual IP address (a unique 12-digit number sort of like an Internet "phone number") and you know it, you can also connect directly.

Getting it right the first time

WebTalk installation was simple, and worked the first time. It needs a Web browser, and if you don't already have one you can install *Quarterdeck Mosaic* which comes in the package along with QWinsock, Quarterdeck's dialer. QWinsock includes the option to sign up with selected ISPs (including Canadian ones), if you

don't already have an Internet account. The software operates as a helper app with other Web browsers and attempts to automatically configure them. Mine worked but instructions are included in case you need to manually intervene.

Configuration is a matter of telling the program what speed connection you're using, and setting up a few defaults. You can fiddle

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BC used-computer scene ...

continued from page 10

take notice of regular browsers—people dropping by to see what's there to "talk computers" with staff and to kick a few tires.

Computers for Schools

Although most used-computer shops help out schools and charities when possible, a focused approach happens through the efforts of a national not-for-profit society, the Computers for Schools Program (CFS). CFS is cosponsored by Industry Canada and the Telephone Pioneers of America—Region 1(Canada), in affiliation with a number of private partners including BC Gas, West Coast Energy and IBM as well as a number of smaller companies. Shipping is donated by BC Tel and BC Rail.

Surplus computer equipment, peripherals, and software is acquired from donors and is then channelled to elementary and secondary schools. To qualify in BC, the school must be recognized by the BC Ministry of Education. Certain DOS-based equipment is given to public libraries.

All donated equipment is tested, repaired, and refurbished prior to being given to recipients. Telephone Pioneers of America (consisting primarily of retired telephone employees) provides technical expertise on a volunteer basis. As John Houck, the program manager of Computers for Schools' British Columbia branch, puts it, "To get a machine up and running, we cannibalize from one machine to upgrade another."

To date, Computers for Schools has donated over 2 000 computers to schools in British Columbia and over 16 000 nationally.

Jane Campbell is the owner of Nightcall Multimedia Productions. You can reach her by e-mail at Jane_Campbell@mindlink.bc.ca or by phoning (604) 980-3219 during business hours. ◆

INFO BOX

Computers for Schools Program (CFS)
http://info.ic.gc.ca/ic-data/cfs/index.html
For more information, contact John Houck at the BC Branch (604) 438-2752, or call the National number at 1-800-268-6608.

Demand for used computers ...

continued from page 11

to equip computer labs.

The Computers for Schools (CFS) program brings educational institutions, communities, businesses and federal, provincial and territorial governments together in channelling surplus computer equipment and software to Canadian elementary and secondary schools and public libraries.

The program, sponsored by the Telephone Pioneers of America—Region 1 (Canada), began two years ago as a joint effort of the BC TEL Telephone Pioneers and Industry Canada. To date, CFS has provided over 150 schools with a total of 1 200 computers.

"With today's ever increasing speed of technological change combined with the pressure to save money, our computer-recycling program provides a cost-effective way of helping students access technology," says John Houck, CFS project manager (1-800-665-7222).

Provincial and territorial telephone companies have donated space for warehousing and repair operations, and the inspection and repair of donated equipment takes place in regional workshops operated by volunteers. The assistance provided by private sector sponsors has enabled CFS to ship computer equipment and software to provinces and territories for regional redistribution.

Meanwhile, the Computing Society to reBoot Canada (info@reboot.on.ca) is trying to put computing power in the hands of kids and adults. Currently operating primarily in Toronto and Montreal, reBoot volunteers pick up used PCs (286 and up) and give out tax receipts. The computers are refurbished and shipped to registered charitable organizations. Recently, reBoot donated 100 refurbished computers to the Salvation Army.

"In a couple of weeks the donor gets a letter from the new computer user and finds out what good that old piece of junk is doing," says a reBoot spokesperson. ◆

Quarterdeck Webtalk ...

continued from page 12

with the way the program compresses sound for transmission, but this is only recommended for advanced users—in the beginning, just accept the defaults.

To begin chatting, simply connect to the *WebTalk* server with your Web browser, log in (you establish a nickname and password when you register, the first time you connect) and you'll see a list of areas, called Rooms, which may be user-created or provided by Quarterdeck. The "Welcome to *WebTalk*" Room, for example, was populated with people trying the product for the first time and looking for someone to talk to, while the "Waiting for Bobg" Room contained one person who was waiting for a buddy to sign on.

With *WebTalk* the audio is surprisingly good at times, and weird at others. I chatted with *WebTalk* users in all sorts of places, from Australia (he sounded as if he were underwater) to Ohio (as good as a phone line) by just asking various people if they'd like to talk by selecting their names and clicking on the "call" button.

You can't use *WebTalk* on a wimpy computer, or with a slow modem. The documentation says a 486/33 with 8 MB RAM is the bare minimum (either Windows 3.x or 95 is required) and your modem has to be at least a 14 400 bps model. A 16-bit sound card is recommended.

WebTalk does attempt to adapt—it'll kick you back to half duplex, for example, to try to function on a slower machine—but it's at its best when there's some computing power behind it. ◆

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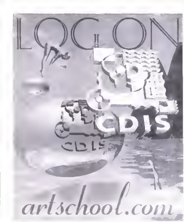

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Feature

Tips for better computer -generated presentations

• • By MYLES WHITE • •

Computer-generated slide shows can help you to increase audience interest, improve message understanding, increase retention explain complex ideas reinforce points, leave a lasting impression and make you appear professional Used improperly the same tools can bore alienate confuse overwhelm, inhibit communication and do potential damage to your image and credibility Your audience doesn't want to hear excuses for a clumsy presentation all they want is clear concise information presented so they can absorb and retain it easily

Over the past few years I've travelled the country giving presentations and the following are tips and techniques I've developed along the way to make them more effective

General software and hardware tips

Make use of the tools provided. Market leaders in the Windows-based presentation software genre include Microsoft (*PowerPoint* 7) IBM/Lotus (*Freelance 96*), Corel (*Presentations* 7), Adobe (*Persuasion*) Software Publishing Corp (*ASAP* and *Harvard Graphics*) and Astound Software Inc (*Astound 4.0*). All help you create quality presentations through the use of predesigned themed templates that include master slides with established layouts, "click-here" fields and preset colour palettes. Using them means you don't have to be a graphics designer.

Don't overestimate your hardware Create your presentations on the machine you're going to use to show them You can add sounds and moving video images to today's presentations, but these multimedia enhancements can overwhelm some older, slower computers A fast desktop system with plenty of memory a high resolution screen, and a large fast hard drive will assist you to make a wonderful presentation that will lag and maybe fail on a smaller under-powered notebook.

Unless it costs a *lot* of money the overhead LCD panel or data projector you'll be using to show your presentation will have limited resolution (640 by 480) and colour depth Try to stick to 256 colours and think of it as a challenge It will also help your computer run faster.

Don't overestimate your software either "Run-time" viewers come with most presentation programs—special applications to run your presentation without having the original program on your hard drive. These viewers all place restrictions on overall presentation file size or on individual slide elements and either don't support multimedia, don't support some transition effects and/or require you to prepare the show at the same resolution and colour depth you're planning to use on the road.

Multimedia objects hate data compression Tempted to use data-compression software that artificially increases your hard-disk capacity such as *Stacker* or *DriveSpace*? Both use mathematical algorithms to compress and decompress software on the fly Most audio and video file formats also compress on storage and have to decompress on playback A slower hard drive and the use of data compression software will almost inevitably result in jerky videos and audio with dropouts as the two compression schemes compete with each other for processing time during playback.

They hate power management, too Given the choice you'll never start a presentation from a notebook running solely on battery, but you might also make sure power management schemes—such as the screen and hard disk going to sleep after a period of inactivity—are turned *off* before you start. Having to wait for your drive to spin up before you can see the next slide will build awkward pauses into the show that are difficult to fill unless you're an accomplished tap-dancer.

Carry spares During out-of-town presentations I've found uses for extra VGA video cables VGA video cable extenders power bars and A/C extension cords, extra pointers (mice die) extra sound cables with converters for both dual-RCA and Sony mini-plug connectors spare speakers, 15-pin video

continued on page 16

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Putt Putt Goes to Zoo $49
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Sheila Rae The Brave $24
Spelling Jungle $24
Spellbound [illegible]
Spell it 3 [illegible]
Thinking Things 1 [illegible]
Tortoise & Hare [illegible]
Treasure Galaxy [illegible]
Where in The World is Carm [illegible]

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[illegible] [illegible]
American Heritage Talk Dic $12
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MON THURS 10-7
FRIDAY 10-[illegible]
SATURDAY 10-[illegible]
SUNDAY 11-6

Interac VISA

Due to [illegible] [illegible] the 95 [illegible] prices [illegible] not been shown

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Borland Delphi Win $59
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4X Kit SCSI $219
4X 4CD Changer Kit IDE $199

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Thrustmaster 12 $17[illegible]

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Dealer Price List Available

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[illegible]
[illegible]
11th Hour [illegible]
7th Guest [illegible]
Age of Rifles [illegible]
Allied General $[illegible]
All 64D Longbow $[illegible]
Aces of Deep [illegible]
Ares Collection [illegible]
Battleground Ardennes [illegible]
Battleground Gettysburg [illegible]
Battleground Shiloh [illegible]
Battleground Waterloo [illegible]
Beast Within [illegible]
Bedlam [illegible]
Broken Sword [illegible]
Caesar 2 [illegible]
Chessmaster 4000 T [illegible]
Chessmaster 5000 [illegible]
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Command&Conq Toolkit $24
Crusader No Regret $47
Daggerfall $[illegible]
Dark Forces $34
Deadlock $[illegible]
Deadly Games $[illegible]
Descent 2 $[illegible]
Destruction Derby $[illegible]
Diablo (Nov6) $Call
Duke Nukem 3D $[illegible]
Earthsiege 2 $[illegible]
EF 2000 $[illegible]
F 22 Lightning $[illegible]
Flight Unlimited $[illegible]
Flight Unlimited Win 95 $[illegible]
Full Throttle $[illegible]
Full Tilt Pinball $[illegible]
Grand Prix 2 $[illegible]
[illegible]
Indy Car 2 $44
Kings Quest 7 $24
Kings Quest Collection $[illegible]
Leisure Suit Larry Col $[illegible]
[illegible]
[illegible] Runner $[illegible]
[illegible] Warrior 2 $[illegible]
[illegible] Warrior 2 Win 95 $[illegible]
Mechwarrior Mercenaries $[illegible]
Megarace 2 $[illegible]
Monty Pyton Comp Waste $34
Monty Python Holy Grail $54
Myst $[illegible]
Nascar Racing $[illegible]
Navy Fighter ATF [illegible]
Necrodome [illegible]
Need for Speed SE [illegible]
[illegible]
NHL 97 [illegible]
Need for Speed SE [illegible]
Panzer General [illegible]
Pandora Directive [illegible]
Phantasmagoria [illegible]
Quake Full version [illegible]
Quake Toolkit $21
Rama [illegible]
Ripper [illegible]
Road Rash [illegible]
Shattered Steel [illegible]
Shivers [illegible]
Silent Thunder [illegible]
Simcity 2000 [illegible]
Sim Isle [illegible]
Space Bucks [illegible]
Space Quest Collection [illegible]
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Strife [illegible]
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Warcraft 2 $49
Warcraft Exp $29
Wooden Ships&Iron Men $59
Zork Nemesis $39
Z $34

Consignment
[illegible]

Tips for better computer ...

continued from page 14

cable gender-changers and a video port terminator. If you're taking your own overhead projector with you a spare bulb is also a must. Even if you've agreed ahead of time to have facilities for plugging in your computer to show your presentation it's not a bad idea to have a copy of it on transparency stock just in case their data projection scheme or your computer has a bad day.

Sometimes people screw up. Of course transparencies can't play sound or animate effects so it's nice to have yet another alternative. I recently gave a presentation and when I arrived the LCD data projection panel was AWOL. Fortunately I was road-testing the new Canadian produced, 120 MHz Pentium-based, Angel 5300 "Presenter" notebook computer from Canadian Advanced Industries. The system has a special screen which can double as a presentation panel. The price is a little higher than average but not when you consider that a comparably featured notebook would be in the $4,000 to $5,000 range and a separate LCD panel could cost from $4,500 to over $6,000 all by itself. All in all not a bad little unit.

Slide design tips

Avoid distractions. All modern presentation applications will animate on-screen components. You can make entire slides sail in from the outer reaches, make text fly about on screen or get graph elements to pop out of nowhere. Doing this once or twice will help you to underscore a point. Exercising these options with every slide will slow your presentation down and bore your audience to tears. Be especially cautious using these enhancements on slow notebooks (i.e. 486-based systems or less).

Design for people at the back of the room. Gimicky typefaces in your presentation text may look fine close-up but if your text is hard to read at the back of the room you're in trouble. Stay away from artistic, hard-to-read fonts and stick to mildly serifed fonts or sans serif fonts.

If you're preparing a show that will appear on someone else's computer keep in mind that unless they also have the fonts you've used, the presentation won't look the same as when you prepared it—yet another good reason to stick with fonts that ship with Windows by default.

While we're at it, text in both upper and lower case is easier to read than all caps and also won't make it appear you're *shouting*.

High contrast between text and background. Most templates in presentation applications use a dark, usually blue background and either white or bright yellow text. If your presentation environment is normal (i.e., less than optimum) colours with similar luminosity (i.e. dark red on a blue background) will be unreadable, and dark text on a light background will fade from view.

Keep it simple. Try to keep the number of points on any one slide to a maximum of four with simple sub-points. Not only does it let you use font sizes visible from a long distance but it allows you to keep the audience's attention narrowly focussed.

Make it easy to remember. Two broadly stated rules for information flow will help your audience to understand, then remember your points.

Tell them what you're going to tell them. Tell them. Then tell them what you told them.

Whack them upside the head to get their attention. Slip them the message. Then whack them again to make them remember it.

Keep it consistent. Templates and slide masters allow you to keep the same typefaces throughout the presentation for headings and bulleted points. They will also present balanced and consistent spacing of slide elements as well as a coordinated colour scheme from slide to slide. All of these things are good because it keeps the audience from being jarred, however briefly, from slide to slide as well as allowing you to break the pattern sparingly to focus attention on a specific point.

Keep it professional. Nothing will undermine your credibility faster than a spelling error. Use the application's built-in spell checker, proofread again and again, then have someone else do it for you.

Colour it carefully. Graduated colour fills take processing time to render and may slow your system down. They are also less effective at 256 colours than you might like and if your effect is too subtle you may be in for a surprise when you discover what the projector you're using does to it (it may not be calibrated the same as your monitor).

Drop shadows will highlight text and, if you keep the orientation consistent (i.e. bottom right), won't jar the audience. If using *PowerPoint*'s technique to build slide text and dim the previous point, they lose all their charm because the program changes both foreground and drop shadow to the same colour, making the result unreadable.

Red and green are common colours, but in addition to those who are colour-blind, about five to ten percent of the population is red/green deficient. Using these colours on a graph to show two different, but close, trends may not be effective.

Always rehearse. Check your show in full-screen mode at least once to judge the effectiveness of transitions and animations as well as how long you have to wait for the next slide. For example, animating the last point of a slide immediately prior to one with a large graphic, sound, or video object may leave you standing, staring eggily at the audience while your computer struggles to get the next slide ready. ◆

New Information Technology ...

continued from page 8

specified in the new curriculum. The cost implications of this seem to have escaped the scrutiny of the authors of the Information Technology package.

Schools may have adequate computer hardware but there may be no one on staff who is sufficiently computer literate to be able to lead students in these areas let alone support a school staff in its training needs. If a school does have such a person, the probability is high that this person is being used to provide preparation time to the classroom teachers, by bringing the classes into the technology centre for "computer period."

Under these circumstances any technology curriculum is destined for a spot on the dusty shelf next to all the other pie-in-the-sky initiatives handed down by ministries of education throughout history.

As a parent and a teacher, I welcome the good intentions of the authors of this program but until my school and the schools of my children are equipped and trained adequately the best of intentions will never see the light of day.

David Andersen is an elementary school teacher in Vancouver BC. He can be reached at david_andersen@mindlink.bc.ca ◆

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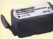

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ATX Mid Power Case with CSA Power Supply
104-keys Windows 95 Keyboard
3 Button MS Compatible Mouse
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104 keys Win95 Keyboard
3 Button MS Compatible Mouse
2 Year Parts & Service Warranty

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100MHz	$1,115	150MHz	$1,310
120MHz	$1,135	166MHz	$1,450
133MHz	$1,215	200MHz	$1,665

Triton II Power Station Plus

Features:
Intel Pentium Processor with Fan (support up to 200MHz)
Triton II 430VX chipset PCI/ISA Main Board w 256KB Pipeline Cache
8MB-60ns EDO Performance Enhanced DRAM exp. to 128MB
1.44MB Floppy Drive
1.2GB Fast IDE Hard Drive (Mode 4)
PCI Enhanced IDE Controller
PCI S3 64V+ Windows Accelerator w 1MB DRAM (exp. to 4MB)
2x16550 UART Serial, 1 Bi-Directional Parallel
14" Non-Int SVGA Monitor .28mm dp
Mid-Tower Case with 230W CSA Power Supply
104-keys Win95 Keyboard
3 Button MS Compatible Mouse
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S3 64V+ PCI w/1MB exp. to 4MB (MPEG)	$56.00
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AD [illegible] .28mmDP	$455.00
AD [illegible]	[illegible]
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Mag DX[illegible] 1024 .28mmDP	$870.00
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NEC [illegible] 1024 .28mmDP	[illegible]
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[illegible] 1024 .27mmDP	$849.00
[illegible]	[illegible]
Sony [illegible] 17" [illegible]	[illegible]
Sony CPD [illegible] 17" [illegible]	[illegible]
Sony CPD 200SF 17" [illegible] 1280x1024 .25mmDP	[illegible]

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ISA IDE HD/FD Controller with I/O	$19.00
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Adaptec 1542CP SCSI HD/FD Controller PnP	$27[illegible].00
Adaptec 2920 PCI SCSI Controller	[illegible]
Adaptec 2940U PCI SCSI Controller	$288.00
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Enhanced [illegible] IDE Hard Drive	$415 [illegible]
Enhanced [illegible] IDE Hard Drive	$499 [illegible]
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Iomega 1GB Int/Ext JAZ Drive	$551/[illegible]
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Syquest SyJet 1.3GB Int IDE/SCSI Remov. HDD	$535 [illegible]
Syquest SyJet 1.3GB Ext Parallel/SCSI Remov. HDD	$715/885
HP Colorado T1000 800MB Int/Ext Backup Drive	$185/259
Seagate [illegible] TR-1 Int/Ext Tape Backup Drive	[illegible]
Seagate 3200MB TR-3 Int Tape Backup Drive	$273.00
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Intel ATX Pentium Pro 200MHz PCI/ISA Main Board	$ Call
SuperMicro Dual Pentium Pro 200MHz PCI/ISA Board	$ Call
[illegible] PCI/ISA w/256KB Cache	[illegible]

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Creative Labs 8X Performance PnP	$455.00
Creative Labs Sound Blaster 16 PnP	[illegible]
Creative Labs Sound Blaster AWE32 PnP	$310.00
Creative Labs Sound Blaster 32 PnP	[illegible]
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Panasonic 8X IDE CD ROM Drive	$139.00
Pioneer CD Disc Changer 4.4X CD ROM Drive	$425.00
Pioneer [illegible]	[illegible]
Pioneer [illegible]	[illegible]

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33.6 S/R Int Fax Modem w/Voice	$125 [illegible]
Hayes Accura 28.8 Int/Ext Modem w/Voice	[illegible]
Supra 33.6 Int Fax Modem w/Voice	[illegible]
US Robotics Courier I-Modem ISDN Int/Ext	[illegible]
US Robotics Sportster ISDN 128K Int	[illegible]
US Robotics 33.6 Int Fax Modem	[illegible]
US Robotics 33.6 Ext Fax Modem	[illegible]
US Robotics 33.6V Int Modem(Full Duplex)	[illegible]
US Robotics 33.6V Ext Modem(Full Duplex)	[illegible]
Microsoft Mouse v.2 OEM	[illegible]
Logitech Mouseman OEM	[illegible]
Microsoft Combo Mouse	[illegible]

Printers

Canon BJ-240 Color Inkjet	[illegible]
Canon BJC-4100 Color Inkjet	[illegible]
Brother HL-641 Laser Printer 300dpi	[illegible]
Brother HL-730DX Laser Printer 600dpi	[illegible]
Epson Stylus 500 Color Inkjet 720dpi	[illegible]
Epson Stylus [illegible] Color Inkjet 720dpi	[illegible]
HP 400 Deskjet Color Printer	[illegible]
HP 690C Deskjet Color Printer	[illegible]
HP 820Cse Deskjet Color Printer	[illegible]
HP 870Cse Deskjet Color Printer	[illegible]
HP 5 Laserjet 600 dpi 12 PPM	[illegible]
HP 5L Laserjet 600 dpi 4 PPM	[illegible]
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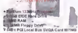

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Hewlett Packard Surestore CD-R [illegible]	[illegible]
Seagate [illegible]	[illegible]
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Line Conditioner LR600/LR1250	[illegible]
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PowerChute for Windows	[illegible]
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Assembly 10 BaseT Cable 100 ft	[illegible]
Cable 10BaseT 8c UTP per ft	[illegible]
Cable 10BaseT 8c UTP per 1000 ft	$220
Connector RJ45M	[illegible]

Coaxial

Assembly RG58A/U Thin Coax 25/50 ft	$15/22
Assembly RG58A/U Thin Coax 100 ft	[illegible]
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[illegible] Ethernet Combo	[illegible]
CNet CN[illegible] BNC Ethernet ea/5+	[illegible]
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CNet CN650[illegible] BNC & 10BaseT Ethernet	[illegible]
[illegible] Ethernet Combo	$225
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[illegible] Combo	[illegible]
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3COM [illegible]	$245
3COM [illegible]	[illegible]
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GVC PCM[illegible] Combo + 28.8kbps Modem	$445
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Xircom PCMCIA Ethernet BNC & RJ45	$230
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3COM [illegible] Linkbuilder FMS II 48 Port mgmt	$2003
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3COM 3C16700 OfficeConnect 8/TPO	$180
3COM 3C1671[illegible] OfficeConnect 8/TPC	$243
3COM 3C[illegible] OfficeConnect 8/TPM	$285
CNet CN88TPC 8 Port Hub	[illegible]
CNet CN80TPC 12 Port Hub	$295
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CNet CN[illegible] SNMP	[illegible]
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D-Link DE [illegible] Port Hub	[illegible]
D-Link DE [illegible] Port Hub	[illegible]
D-Link DE [illegible] Port Hub	[illegible]
Hewlett Packard AdvanceStack 12 J2[illegible]	[illegible]
Hewlett Packard AdvanceStack 24 J2[illegible]	[illegible]
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[illegible] PC	[illegible]
[illegible] Base T	[illegible]
[illegible] Jumperless	[illegible]
[illegible]	[illegible]
[illegible] EtherExpress Pro 10 10Base	[illegible]
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[illegible] EtherExpress Pro 10+ 10Base	[illegible]
Microdyne NE[illegible] BaseT	[illegible]
Microdyne NE[illegible] 10Base T 20 pk	[illegible]
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3COM 3C250-TX Linkbuilder FMS [illegible] Hub	[illegible]
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Intel Pro 100 EISA FastEthernet	[illegible]
Intel Pro 100 PCI FastEthernet	[illegible]
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Intel EC100TX Express 100Base-TX Hub	[illegible]
HP Networks 100VG ISA Adapter	[illegible]
HP Networks 100VG EISA Adapter	[illegible]
HP Networks 100VG PCI Adapter	[illegible]
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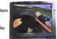

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2430CD	P133	16MB	1GB	11 3 DS	$4 380
4200	P100	8MB	810MB	10 4 TFT	$4 230
4230	P133	8MB	1GB	10 4 TFT	$5 498
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J50	P133	8MB	800MB	10 4 TFT	$3 940
P30	P100	8MB	800MB	11 3 DSTN	$3 595
P30	P100	8MB	1 2GB	11 3 DSTN	$3 875
P50	P133	8MB	800MB	11 3 TFT	$5 265
P50	P133	8MB	1 2GB	11 3 TFT	$5 550

TEXAS INSTRUMENTS

Model	CPU	RAM	HDD	Display	Price
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570CDI	P100	8MB	810MB	10 4 TFT	$3 960
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420CDT	P100	8MB	1 3GB	11 3 TFT	$4 700
500CS	P120	16MB	1 3GB	12 1 DSTN	$5 200
500CDT	P120	16MB	1 3GB	12 1 TFT	$6 600
650CT	P133	16MB	1 3GB	11 3 TFT	$6 330
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New Media Toast N Jam Sound/SCSI	$488 [illegible]
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New online travel service aims to be world's biggest

With winter (and winter holidays) fast approaching, what better time to launch what is hoped to be one of the biggest online travel booking Web sites in the world? That's exactly what giant Vancouver-based travel franchiser Uniglobe Travel did in October.

The new service, Uniglobe Travel Online (http://www.uniglobe.com/), combines airline booking services, cruise information and getaway-tour packages for people using the Internet.

As the world's troubled airlines clip their travel agents commissions some related businesses have felt the pinch and many have opted to radically rethink the way they do business. Many are turning to the Internet.

Recent surveys by the Travel Industry Association of America indicate that nearly half of frequent business travellers and a third of frequent leisure travellers surf the World Wide Web. Many travellers also proclaim the convenience and savings to planning and booking travel online.

Uniglobe Travel president and CEO Gary Charlwood, who is also cofounder of Century 21 Real Estate Canada, is the main proponent behind the initiative. His plan includes collecting travel-related information on destinations in hopes of creating the world's largest travel reference library online. Currently the database has geographic map and location information on many popular international destinations.

Uniglobe Travel Online will go head-to-head with Microsoft and their partnership venture with American Express Travel due for launch early next year.

The new service is proving popular—with investors at least. Uniglobe Travel Online stock soared on the Vancouver Stock Exchange tripling in value in only the first two days of trading.

Wired condos sell faster

With a slight glut of condominiums and a weakening real-estate market, what does it take to coax people to buy? Some big British Columbia housing developers think they've found the answer. They're finding that wiring new apartments and condos with fiber optic cable is giving their properties a distinct selling advantage.

Concorde Pacific Developments will spend an estimated $10 million to install the high tech cabling into a new 8,500-unit structure in Vancouver's False Creek area. The same goes for a 500-unit Residences on Georgia project which was built with a leading-edge communications network touted as the best in North America.

Area 51 wants you

Area 51 Interactive, a division of Vancouver-based Palmer Jarvis Advertising, has joined the growing number of BC Internet and intranet Web-site design firms with big hopes and a rosy future.

The division has gone on a recruitment blitz hiring writers, programmers and artists to staff their growing four-month-old venture. "We currently employ 14 full-time staff at the moment but we expect to be up to roughly 26 within a month," says Area 51 president Dave Schulz. According to Schulz, business couldn't be better—if it weren't for the shortage of professionally skilled people.

"It looks like there's a huge void in the market for high-end development," says Schulz, "and we're finding there's not a whole lot of design firms that can do a professional job. At Area 51 Interactive we think we're putting together the best team in Canada. We're specializing in commerce, communications and tourism on the Web. We have several sites in development right now."

The firm has already designed several high-profile sites, including a top America Online Web site called Orbit, InfoCan for the Canadian government, and a site called HockeyPool.

With a high-profile parent company like Palmer Jarvis, you'd expect a Web-site design firm to at least have their own Web site presence but they don't. "That's a reflection of the state of the company right now," says Schulz. "We're so busy with our clients, we haven't even been able to do a site of our own."

The name Area 51 is taken from the name of a top-secret high-tech military base in Nevada, where the Stealth, 117, Blackbird and Aurora aircraft were built and where captured extraterrestrials have supposedly been detained.

CREO and Polaroid join forces

Burnaby-based CREO Systems have formed an alliance with Polaroid to supply computer-to-plate technology and machinery needed for their new film-free digital-imaging system in development.

Polaroid, makers of cameras and instant self-contained photographic film systems, say their new dry imaging is experiencing moderate growth. The new technology eliminates the need for traditional film chemistry and can be used as a convenience and cost-saving method by service bureaus and related print industry service suppliers. Digital images prepared on computers can be taken directly to plates, bypassing the need for intermediary film.

Steve Bain is a writer in Vancouver, Canada. He can be reached on CompuServe at 72623,1233 or Internet Steve@helix.net. ◆

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Budget-slashed CBC Radio pushes ahead with cyberspace plans

• • By CHRISTOPHER GULY • •

A week after losing 500 jobs and $34 million from its budget over the next 18 months, CBC Radio became the world's first public broadcasting network to offer live programming on the Net. Both English radio and stereo are involved in the cyber-audio push by the Mother corporation.

The move to the Net is not something new for CBC Radio. For the last three years digital-audio versions of major newscasts and a few other programs have been available in delayed format on the Net.

The network has not budgeted its electronic service however according to CBC's manager of radio technoworks "There might never be" Bob Kerr recently told the *Ottawa Citizen*

Nevertheless the public broadcaster has scrounged enough money to pay one employee as the service's dedicated Webmaster by renting out studio space at CBC's Broadcasting Centre in Toronto

CBC is using Real Audio—made by Seattle-based Progressive Networks—which converts its audio signals into digital files. CBC's Net service driven by three Pentium-powered PCs can accommodate up to 100 users at any time There are plans to limit access to one hour at any time however

Full spectrum Netcasting?

Down the line the network is also looking at introducing online video digital radio and television, and expanding its WWW site to include audio archives Meanwhile CBC Newsworld is testing software that will allow it to post its TV signal on the Net.

To hear CBC Radio you need a multimedia computer with at least a 486 (or equivalent) processor and a 14.4 Kbps modem connection to the Net.

To hear CBC Stereo, you need a multimedia computer with a Pentium (or equivalent) processor and 28.8 Kbps modem connection to the Net.

At the moment, CBC Radio's WWW site at http://www.radio.cbc.ca/ is receiving 50 000 hits per day ◆

Apple head keeps the faith

• • By LEE LESTER • •

Apple chief Gil Amelio was in Toronto last month to preach a message of hope to the doubting the cynical and the long-converted who have never faltered in their faith in the Macintosh.

At an uptown hotel, he directed himself mainly to Apple customers beset by a spate of bad news about the Cupertino, California-based computer maker. Apple, he declared, was well on its way to financial recovery

"I have about $1.5 billion in the bank" he said "And even our R and D can't quite spend it all"

Then, to applause, he vowed. "We are going to be around for the long haul. My grandchildren will be buying Macintoshes"

Apple, he said, would remain in both the hardware and software businesses focusing on multimedia, where it was the leading platform, and the Internet, while forging industry alliances. Pioneering software, he promised, would provide "an awesome experience"

"We have more registered developers today than we have ever had in the history of the company—over 11,000" he said.

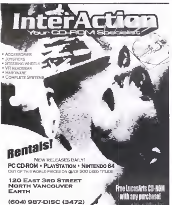
"Most Windows applications are developed on the Macintosh—and most people do not know that."

Get the word out

Initial development of *Microsoft Explorer* was done on the Mac said Apple's chairman and CEO He admitted, however "We've had strong capability on the Internet all along but somehow we haven't done a good job in our public relations."

At the end, there was more than polite applause As one colour graphics specialist remarked though "He's a mechanic, not a rousing speaker" Two print-service bureau women asked if they had had their faith restored declared "We've never lost it"

Amelio later told journalists that there would be no more mass layoffs. And Apple, which should start turning a profit again in the first quarter of 1997, would again surprise people with its marketing and products ◆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SOHOs and the Internet:
Unprecedented opportunities

• • By JEFF BUCKSTEIN • •

If you run a SOHO (small office/home office) and own a personal computer with sufficient memory and a modem the Internet can literally place the world at your fingertips, and offer you unprecedented commercial opportunities.

The Internet provides instantaneous electronic advertising capable of utilizing multimedia technology and reaching clienst across the globe The availability of e-mail also means that businesses can correspond with clients faster than ever before offering potential savings on postage telephone bills, and other expenses

The plethora of information available on the Internet, 24 hours a day and seven days a week offers potential advantages to many different types of home businesses Home-based freelance writers for instance can use the Internet to remain on top of developing news stories from around the world Entrepreneurs and other professionals can use the Internet to stay current on developing trends within their respective fields

Tax relief

Tom McCallum a certified general accountant and chartered business valuator, who works out of his home has been using the Internet for about a year Although he finds cyberspace beneficial to his practice primarily from a research standpoint, Mr McCallum has discovered other benefits Revenue Canada's income tax sites allow him to download tax forms thereby saving traveling time

Having an e-mail address allows him to correspond more cost-effectively with clients across Canada. McCallum is currently in the process of designing a home page, complete with a photographic image, from which he plans to advertise his services and provide a catalogue of income tax articles he has authored.

The Internet is also ideal for advertising unique products made by home-based businesses. Need some original crafts? How about a ring holder resembling a Middle Eastern style vase to display all your rings? Or maybe you'd be interested in a bughouse shaped like a miniature birdhouse to hang over your garden? Anybody in the world with access to the Internet can locate these and other original crafts, at a Web site that adver-

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INFO BOX

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Misleading software packaging finally coming under scrutiny

• • By PAUL LIMA • •

Have you ever purchased software that wouldn't run even though you had the minimum system requirements outlined on the package? Have you ever purchased software that ran, but did not live up to expectations created by advertisements or by promises on the package?

Up until now there wasn't much consumers could do except try to return the offending software to the retailer—who would generally refuse to take it back because the shrink wrap had been ripped open There may soon be an alternative—an official way to lodge a complaint against a software manufacturer who has misled you

Industry Canada through its Consumer Products Directorate, has introduced a project to determine the degree to which software manufactures fulfill packaging and advertising promises The project will include a survey of consumer groups and software manufacturers

Sibling rivalry?

If you fear software manufacturers will not knock each other think again McAfee has recently accused Symantec of making false and misleading claims regarding *Norton AntiVirus 2.0* McAfee says Symantec's claims "exaggerate the product's virus detection capabilities" and has called for removal of the software from store shelves

Computer consultant Richard Morochove president of Morochove & Associates thinks its about time Industry Canada launched such and action

"When you purchase a new PC or software you rely on the manufacturer to tell you what you're buying Few consumers have the technical expertise to go 'under the hood' to verify the seller's representations"

He cites *SoftRam 95* from Syncronys Softcorp as a classic case of misleading advertising. The Windows 95 utility claimed it used compression techniques to speed up the operation of computers independent tests however, proved *SoftRam* did not fulfill its promises A class-action civil lawsuit filed in the United States led to a settlement there, but Canadian *SoftRam* purchasers have had no real recourse

Morochove is informally helping researchers at Industry Canada with their survey He has asked consumers to let him know if they've found misleading claims on software boxes or in advertisements. He will follow up on interesting complaints and compile information to forward to Industry Canada.

The computer industry has also come under attack from the US Better Business Bureau (BBB) According to the BBB consumers are lodging more computer-related complaints than ever, and computer sellers have hit the BBB's "Bad List."

During 1995 computer sales and service companies made the top ten on the Bad List for the first time with over 4 000 complaints. They came in at eighth place worse even than used-car dealers which hold the twelfth spot. ◆

SOHO's and the Internet...

continued from page 24

ties on behalf of "talented Atlantic Canadian artisans (offering a) unique selection of crafts, giftware and artwork"

The art of the Net

A number of Canadian artists such as painter and sculptor Merike Lugus, are also using the Internet for commercial purposes. In 1995 Lugus placed a personal profile on the Internet along with a portfolio of photographs and descriptions for about 30 paintings and sculptures. She has received responses from admirers in several countries, including Italy Sweden Estonia, and the United States She was also invited to exhibit her work at a gallery in Washington state last November after the exhibit's organizer viewed her online portfolio

Internet-access charges vary from about $15-$100 a month (or more) depending primarily on the number of hours of service contracted and whether you establish an individual or corporate account If you require Web design assistance for your home page many internet service providers will assist you typically at either an hourly or fixed rate The total cost of establishing and maintaining a Web site with an ISP will also vary depending on whether you have a personal or commercial account and the amount of space used ◆

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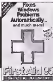

Win95 users, help is here!

As you sit at your computer, have you ever wished for a magic fix to resolve its problems? It has been one from the heart for me—until I discovered *FirstAid 95 Deluxe* by CyberMedia

• • By JOAN LATCHFORD • •

CyberMedia targets the most common cause of General Protection Faults and system crashes. incompatibilities between 16-bit legacy software and drivers and the new 32-bit programs written for Windows 95 Such conflicts are estimated to cause 90 per cent of tech-support calls

Your hardware may also show improvement after *FirstAid 95 Deluxe* has sorted out your peripherals and their mismatched software drivers For instance, I was recently troubled by mouse-like droppings on my screen—when I had not installed mouse trails A minor irritation *FirstAid 95 Deluxe* repaired for me on its test run, along with 37 other irritants

The colours, the colours!

Start *FirstAid 95 Deluxe* and you see a screen under the graphical influence of a Web page designer! Its colours are gaudy: its five stamp-sized buttons bold! I couldn't wait to push them They are

1 First Aid this module tests and tweaks all your installed program drivers and DLLs into compatibility and smooth performance What it can't do with Autofix It will tell you in plain English how to do yourself after you select details and choose Manual Fix. For instance it will flag orphan icons marooned on the Win95's Start menu You have the choice of reinstalling the missing files or removing the icon

2 RetroFix this stores up to 50 date and time stamped snapshots of the system files created at start up For instance after I had installed a software patch Win95 failed to recognize my modem After fussing around with settings in control panel and getting frustrated, I chose to restore the configuration snapshot saved by RetroFix an hour before This time when logging on to my ISP (Internet service provider) I was greeted by its familiar cicada buzz as it connected.

3 Startup this creates a start-up disk with the 21 executable and data files you need for disaster recovery These include PC911 and your CMOS data. Add your CD-ROM drivers and you're back in business.

4 Update you need a modem and an Internet connection for this one which logs you on to CyberMedia's Internet server *FirstAid 95 Deluxe* then installs any patches to itself and updates the 10 000-entry knowledge base at the heart of the program Cyberfix also determines if you have the latest version of Windows 95 If not, it goes directly to the Microsoft update site, and downloads and installs it for you Lastly it makes current additions to the searchable "Yellow Pages" its catalogue of 30 000 industry mailing addresses and telephone/BBS numbers and adds available vendor Web and FTP site addresses.

5 CyberHelp this brings up your searchable Yellow Pages and uses your modem to make a direct connection to the site of your chosen hot-linked vendor's URL (Universal Resource Locator) It again uses supplied links to an appropriate FTP site to download driver/antivirus updates for manual installation

Manual service

FirstAid 95 Deluxe comes with a 163-page manual that is a model of clarity It will give you in-depth information on those program functions I have touched on and others "too numerous to mention" It also comes with a copy of its industry Yellow Pages for bedtime reading

I have only one suggestion to improve *FirstAid 95 Deluxe* it should install your CD-ROM drivers onto the obligatory Start-up disk ◆

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New Organizer still does the job

Organizer 97

• • By MYLES WHITE • •

Personal Information Managers (PIMs) come and go but one of the more enduring has been *Lotus Organizer* The new version, *Organizer 97* like most new software today is for Windows 95 (although it mostly functions under NT a separate version for this platform was announced just before press time)

Organizer 97 offers a Windows 95 look and feel with features such as common dialogues, long filenames, and registry support. Although its basic look hasn't changed, *Org97* offers some enhancements to its PIM features

In the Calendar section enhancements include a new Day-per-Page view using time slots and a time ruler that lets you graphically display and block time for your appointments. If you have long days, however, there is a limit to how many time slots you can see at one time With 30-minute blocks the limit on a 1024 by 768 screen is 12 hours at a time—in order to leave room for sections you may choose to include in the calendar view (such as Planner, To Do, Anniversary and Calls, or any new sections based on one of these templates)

There are also new ways of extending or changing appointment time and duration. The familiar spine-clock is still available but now you can grab the edges of an appointment and drag it on the page to resize or move it.

Too many clicks?

In the Address section, the entry mask has been updated to make entering and editing business and home addresses easier, although you still have to click twice to call an existing address up I'd like to see one-click access—a feature that existed in versions 1.x but vanished in later editions—added as an option. The anomaly in versions 2.x that saw a contact's name appear twice in some views has mercifully been corrected.

In Calls management Lotus has added support for Microsoft's TAPI (telephony applications programming interface) dialing, which means more streamlined automatic number-dialing capabilities in both the Calls and the Address sections

Notepad has a profusion of improvements including rich text formatting (such as bold, italic and underlining, plus font size type and colour) and full use of all cursor controls (e.g. PG DN, PG UP and direction scrolling arrows, as well as TAB keys all work) Paragraphs may be left, centre, or right aligned. OLE (object linking and embedding) support has also been added to the notepad.

Org97 is a client, but not a server—in other words, you can embed documents in it, but you can't embed *Org97* into in other programs documents If, however, you have a World Wide Web browser, you can embed Web sites and home pages on Notepad pages.

Keep up with the tour

Other general changes include a new *Organizer* tour that gives you an overview of the product, relatively painless conversion of *Organizer 1.x* and *Organizer 2.x* files to *Organizer 97* files (with the new OR3 extension) Keep in mind, however, that once a file is converted to the new format, it can't be reopened in earlier versions, nor will it interact with the quick-entry feature in *SmartSuite 97* Lotus says a patch is in the works for the next revision of *SmartSuite*

You can send mail without leaving *Organizer* by using TeamMail and your electronic mail system, but this doesn't include Internet e-mail unless your mail system has an Internet gateway.

There has been a big improvement in *Organizer's* file-sharing abilities. New to this version, you can now open two or more instances of *Organizer* on a peer-to-peer network to share a single file, live, among other users. All systems must be using *Org 97* and Windows 95 or higher (i.e., NT). With this new feature also come new ways to set access rights to your file using passwords. One thing that is missing, temporarily, is Group Scheduling. Instead, you get a coupon in the box.

Biggest disappointments? There is still no filter or maintenance routine that will allow you to search and destroy duplicate records in the Address book Although there is a menu item to compact an *Organizer* file it isn't obvious that it repairs damaged files

Organizer's proprietary file structure makes importing records from other programs difficult, even with field mapping (*Organizer* doesn't recognize dates in a text file as valid). And, last but not least, although I'm sure *Organizer 97's* built-in help function which is supposed to connect to the Internet (if you have an account browser and modem) works with older versions of *Internet Explorer* it doesn't appear to function with *Internet Explorer 3.0*—there is a problem with the syntax it hands the dialer that prevents it from recognizing "%1 http://www.lotus.com" as a valid Internet address, and I wasn't able to find any way to change its mind ◆

INFO BOX

Organizer 97 from Lotus. CD-ROM or 3.5-inch disks. $139 (suggested retail price), $89 (street), upgrade $106 (retail), $65 (street). For more information, visit http://www.lotus.com/ or call 1-800-GO LOTUS (465-6887).

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Software

The little layout program that could?

• • By S.J. ROSS • •

TurboPublisher from IMSI is a handy little layout program for creating brochures, flyers, business cards, newsletters, post cards, faxes, and other template-based documents.

TurboPublisher is a template-based program. Templates—master documents containing layout and format information—are particularly helpful for users who are unfamiliar or uncomfortable with document layout and design.

The program offers a variety of text-manipulation options including kerning and leading. Kerning is the manual adjustment of space between letters and is especially handy for large point sizes—such as headlines—where letter-spacing discrepancies (gaps or crowding) become glaringly obvious. Kerning allows you to adjust letters for a uniform appearance.

Leading is the spacing between lines of text. Leading moves lines of text closer for relational proximity, or further apart for clarity.

But, if kerning and leading aren't exciting enough, you can also slant, curve, or rotate your text. You can also import text from your word processing program or type it directly onto *TurboPublisher* (it has both a spell check and thesaurus).

Screen shots made easy

TurboPublisher's most interesting feature is its screen capture. Although *TurboPublisher* offers 1,200 clipart images—typical of the clip art in numerous layout programs—you can bypass these images and use screen capture to copy any image you have and paste it into your document (especially handy if you use a logo).

If you are familiar with Windows, the learning curve is comparatively mild, and is made even easier by PagePilot. At the end of PagePilot are cue cards to help you navigate through *TurboPublisher's* functions. Once you are familiar with *TurboPublisher*, you can turn the cue-cards option off.

Despite its claim to be "the ultimate home/office desktop publishing software," however, it may not be powerful enough for SOHO (single office/home office) use. To compare *TurboPublisher* to a more comprehensive program: *TurboPublisher* offers 100 templates, 100 TrueType fonts, 1,200 clip art images and features such as PowerText to manipulate text and screen capture to copy and paste screen images; *Adobe PageMaker 6.0* offers 220 fonts, 18 templates, and no clip art, but it has far more sophisticated options such as multiple master pages and the ability to save *PageMaker* layouts as Web pages.

TurboPublisher requires 7 to 24 MB of hard-drive space and at least 8 MB of RAM to run efficiently; *Adobe PageMaker 6.0* uses 24 to 40 MB hard-drive space and 8 to 16 MB RAM. So, while *TurboPublisher* has roughly half the hardware requirements of *PageMaker 6.0*, it also has roughly half of *PageMaker's* features and options.

As it is not powerful enough to create the library of specialized documents SOHOs may require, nor small enough to justify as a second layout program, who would benefit from *TurboPublisher*? Probably consumers or part-time businesses with limited needs.

If you have highly specialized needs and require a layout program that offers an exhaustive variety of options, you might find it more efficient to bypass *TurboPublisher* and invest in a more flexible layout program (such as *PageMaker*). If, however, you have a limited budget and you want only predictable template-based documents, then *TurboPublisher* may be all the power you require.

TurboPublisher from IMSI. Windows CD-ROM.

S.J. Ross is a freelance writer and consultant specializing in corporate, marketing and employee communications, and can be reached at sj.ross@paldnet.org ◆

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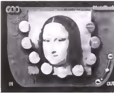
Get the Goo!

• • By CLIFF CUNNINGHAM • •

Kai's *PowerGoo* is being billed as a new type of product: a creative entertainment tool. Despite a few limitations, it has definitely carved out a unique niche for itself in the software market. It's not only fun and addictive, it can actually be put to useful purposes—but who wants to work when you're having such a deliciously good time!



PowerGoo allows you to create "liquid images" and manipulate them in realtime by smearing, stretching, shrinking, and smudging. You can choose from *Goo*'s 11 image libraries, which contain more than 170 images of men, women, children, animals, and "politicians" (including Charles, Diana, Newt, Bob Dole, Nixon, and Noriega).

These are good for experimentation before you import your own images, but one annoying limitation is *Goo*'s inability to import JPG files, the format most likely to be available from the Internet. The only formats accepted by *Goo* are BMP, PSD (*Photoshop*), PCD (photo CD), and TIF.

Another serious limitation arises when you try using your own images. I tried importing JPG images I had converted into BMP images using *Photoshop*. The importation proceeds okay but the image is cropped along the top and bottom by *Goo*. Unlike most programs, the *Goo* interface is fixed; you cannot resize images or even minimize the *Goo* screen to interact with other programs.

Doing anything outside of *Goo* requires you to exit the program, and doing anything within it requires the *Goo* CD-ROM to be in your drive: a very annoying situation.

The next thing?

Speaking of the CD-ROM, it contains several interesting demos, including one that shows the effects of various image manipulations frame-by-frame. The unusual thing is, you cannot access any of these files from within *Goo*! The easiest way to see them is to use the Windows 95 "Run" option from the Start menu.

Despite these peculiar interface elements, *Goo* is a great program for just fooling around with images. It allows you to seamlessly blend parts of one image with another in the so-called "fusion room." Utilizing bi-directional cloning, it sets a new standard for simplicity of use in the field of image manipulation.

Fusion is achieved with a floating layer above a background image. A smooth button (using 48-bit colour and 16-bit alpha channels) lets you adjust the "hardness" of the edge of the floating layer and a smear button blends the two layers seamlessly.

The smooth and smear controls are also available in the *Goo* Room, where you can work on single shots. Other effects you can use are grow/shrink, move, smudge, nudge, mirror toggle, bulge, twirl, rotate, stretch, squeeze, and spike.

Each image can be saved and run as a "goovie." The length of your movie can be varied, the slowest setting resulting in a 30-second movie loop. Intermediate frames are generated algorithmically by *Goo*. You can also export these as AVI or Quicktime files. Text can be added to any frame, and these can be printed. ◆

INFO BOX

Kai's PowerGoo, from Metatools. Windows 95/NT or Mac CD-ROM. $49.95.
The program requires at least a 486 with 8 MB of RAM and 20 MB of hard-drive space.
For more information, contact Metatools at (805) 566-6200 or visit http://www.metatools.com/

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Samsung-made Xerox printer performs well enough

• • By MYLES WHITE • •

It has to be a little galling for the company that invented laser printing to have its most recent printer built by somebody else, but that's the situation Xerox finds itself with its model 4508. Intended as a personal unit for corporate executive use the 8 page-per-minute 600 dot-per-inch monochrome laser is manufactured for Xerox by Samsung.

That's part of the reason why this review is only appearing now even though the printer has been in my shop for several months. A software conflict prevented its "Status Monitor" (a memory-resident software application that is supposed to reveal interactively whether the printer is out of paper, off line, has a tray or compartment open or is otherwise unhappy) from operating.

Because the software programming was done by Samsung, not Xerox, it took forever, plus a visit from one of Xerox's top troubleshooters, to sort out the problem (caused by two copies of a Windows print driver being present in both the Windows main and system directories—and unfortunately the wonky one provided by somebody else instead of Xerox, got picked up in the path scan first).

Once the glitch was traced, captured, bonked on the head, and cleared up all concerns I had about the printer went away. It's ironic really because without the Status Monitor the printer worked quite well all by itself.

Feedback—bah!

Somewhere in the lofty halls where you might imagine these types of conversations take place printer-manufacturing executives must bemoan the day they ever heard of Microsoft's idea to have printers (and fax machines and other devices) communicate back to the user to advise their status. For years most individual users did quite well figuring out that a print job didn't work because there was no paper all on their own.

In corporate environments however, where the average worker hates computers to begin with, doesn't want to trundle down the hall to see why the print job disappeared over the network and could care less why, status reporting is all the rage—so I guess we're stuck with it. I do wish, however, that the various companies producing the applications would work a little harder to bug-swat 'em before they get to me because for the past two years—during which I've looked at a truckload of products—the most consistent problems have

continued on page 31

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Samsung made Xerox ...

continued from page 30

not been with the hardware they ve been with the @#$%! reporting software (sigh—end of rant)

Back to the 4508 and its basic specifications—the unit is based on a 20 MHz Motorola MC68322 processor with banding co-processor It ships with 2 MB of RAM and is upgradeable to 34 MB (and some minor problems printing pages with large photographs suggests you may want to upgrade sooner, instead of later) Resident typefaces include 45 scaleable PCL 5e fonts 1 bitmap font, and 65 True Type downloadable fonts (on disk) Resolution is 600 by 600 dpi Interfaces are limited with only a Centronics bi-directional port (i.e no serial or Mac connectors)

Software compatibility includes DOS (*MS Word*, *WordPerfect* and *AutoCad*) OS/2, Windows 3 x and Windows 95 (these drivers didn t ship with our evaluation unit, but they should be ready by the time you read this—and if not, setting it up as a PCL 5e printer will work too) At present there are no Windows NT drivers but I was able to trick NT into running it anyway

Watch your eyelashes

Software utilities include Win3 x/95/DOS versions of a remote user interface (you ll want it because there is no visible character readout on the printer itself and trying to change settings using its control panel with a series of blinking lights to interpret will make your eyelashes fall out) the Status Monitor noted above and the Xerox Font Manager PostScript is *not* an available option

Paper handling is fairly standard for a printer in this class with a built in "universal" paper tray that will handle standard letter legal or envelope stock, plus a bypass for feeding individual sheets of odd sizes The standard input tray handles up to 250 sheets of paper or transparencies (16 to 20 pound—60 to 105 gsm) and there is an optional 250 sheet tray you can add underneath Output is limited to 125 sheets (face down) and there is also a straight-through bypass for thicker stock (16 to 37 pound—60 to 140 gsm)

The unit has a compact footprint at 14 4 by 13 6 by 7 2 inches (w d, h—367 by 345 by 184 mm) and it weighs 17 8 pounds (8 kg) The toner cartridge is rated at 4 000 pages (at 5 per cent coverage)

The printer is Energy Star compliant (these days what isn t?) with an energy consumption of 12 W while asleep That s just as well, because you re constantly going to forget to unplug it and that s the only way to turn it off—there s no on/off switch It carries a one-year warranty

The price? Suggested retail is $999 Expect to find it on the street for slightly less

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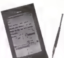

• • By JIM OMURA • •

The Sharp Zaurus and Apple Newton PDA product lines have gone in substantially different directions this year but both seem to be sticking to the common theme of "information anytime and anywhere" using new standard and optional communications support and backlighting.

The MP 130 is the second half of the upgrade to the Newton MP 120 that began with the 2 0 ROM software released last winter. The new hardware upgrades are minor refinements answering user requests for screen texturing and backlighting and positioning the Newton MP-130 for the future with an additional 0 5 MB system RAM

Similarly the only hardware changes visible to users between the ZR 5800 versus the ZR 5000 is the addition of the backlight and a permanent icon for the new Pencell Spreadsheet function but additional standard-communication software answers users communications needs.

Emphasizing communications capabilities both companies also supplied their proprietary fax/modems for testing.

Field testing

While neither has a really bright backlight the Zaurus backlight is particularly weak It is marginally usable but will be welcome in emergencies

Since the added "system RAM" in the MP-130 is mainly aimed at improving performance when using "add on" software applications, no significant changes were found in my benchmarks

Both the Newton and Zaurus integrate their "Contacts" or "Names" files and other data items with their new communications functions

Sharp included the "Link" system to jump between spreadsheets to and from the "Contact" and "Data" files but does not connect the spreadsheets to the generally more powerful "Filer" system

Earlier this year Apple closed down the "Newton Mail" service so for a limited time Apple is providing free Compuserve software to purchasers of MP 120s and MP 130s There is no special deal to get connected, however

The fax

Both systems made neat, professional-looking fax documents from ordinary text notes and sent them without problems using autodialing.

Apple s goal for the Newton fax handling was to provide everything needed to receive annotate and forward documents I tested the Newton system receiving fax documents annotating them using both "text" and "ink" notes and forwarding the annotated fax from the Newton to my laptop

There were some minor problems The fax receive system is not fully multitasking, so once the Newton is set to receive faxes there is nothing else one can do with it until the fax receive function is "stopped" When I tried annotating the fax the screen scrolling tended to "jump" while I was writing making it difficult for me to write a sentence Although I got it done, the system is a bit clumsy and needs work

Lastly fax documents that are "Forwarded" are scaled down slightly I would prefer to override this and send documents in their original size

The Newton used about 44 KB per page to store faxes

ZR 5800 Data Comm functions

I also used the Terminal emulator through the fax/modem to log on to a local BBS The capture buffer worked, creating a file for the Zaurus "Document" function

Beyond that the Compuserve software is graphic and supports online and offline operations the "Pager Access" program sup-

continued on page 33

Product data:

Apple H0086/Sharp CE-FM4

General
Type II PC Card/Proprietary bolt-on
Size: 86 x 54 x 5 mm/89 x 43.1 x 18 3 mm
Weight. 33 g/36 g
Load Number: 4/2
Ringer Equ. 0 5B/0 4B
Comm Support.
Bell 103 yes/yes
Bell 212a - yes/yes
error correction.
MNP Class 2 yes/no
MNP Class 4 yes/no
compression
MNP Class 5 - yes/no
CCITT V 22 - yes/yes
CCITT V.22bis yes/yes
Fax Support.
CCITT V21 - ch /2
CCITT V 27ter - yes/send only
CCITT V.29 - yes/send only
Included cable: 2.14 m/0.8 m

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New Kodak digital camera a quick gem

• • By BRANDI JASMINE • •

The DC-20 is the best-priced offering to date from Kodak, retailing at about $499. It is the first truly affordable digital camera of choice for the home-computer user.

The interface and software are studies in elegant simplicity. Just plug the cable into any available serial port, and the software automatically detects the location of the camera. The DC-20 is also small—about the size and weight of a disposable camera. It stores 8 or 16 images in memory, at either 493 x 373 or 320 x 240 resolution.

The DC-20's software is still basic compared to commercial photographic manipulation packages such as *Photoshop* but it is much improved from the DC-50 package including a variety of "special effects" tools and card/calendar software.

The DC-20 is ideal for the publisher or artist who wants quick images for Web pages or desktop publishing, but travelling Internauts and photo enthusiasts may want to spend a bit more money for the extra storage capabilities, higher resolution, and flash feature of the DC-50

The DC-20 lacks a flash, which was not a serious handicap, as one has a great deal of flexibility to bring out colour, focus and contrast with the software, and the camera does a good job of sensing and compensating for various lighting conditions.

Downward price trends

These cameras are getting smaller and cheaper by the day (at least one unit has dropped in price by nearly half since it was reviewed in *TCP* in April of this year).

The quality of images taken on digital cameras still has a ways to go however, before it will match the quality of film-based cameras. Still, if one considers the cost of a traditional camera, film, developing, scanner, and software, versus the flexibility offered by the DC-20 it can be an extremely attractive alternative for a digital publisher or small business.

The issue of speed should not be lost on such users. I was able to set up a Web site covering a company picnic before some of the party-goers had made it home that evening. Another, similar site was delayed for three days waiting for developing, processing, and scanning to be completed. In the fast-paced world of the Web, three days can be a significant advantage.

Sample images taken with the DC-20 can be seen at http://www.idirect.com/jasmine/art/digicam/ ◆

Sharp and Apple ...

continued from page 32

ports sending and receiving digital pages and "AT&T Mail Access" is an e-mail support program only for use with AT&T Mail service

The biggest news in Zaurus software is the "PenCell" spreadsheet. PenCell reads *Excel 3.0* and *Excel 4.0* files and writes *Excel 4.0* files. PenCell only supports a subset of *Excel*'s functions, but the range is wide enough to accommodate most typical spreadsheets, including those using some fairly advanced financial functions.

Calculation speed is slow but usable for small spreadsheets. My standard 400-cell floating-point multiplication benchmark took about 8 seconds to complete the calculation and screen refresh. By comparison, the same 400-cell calculation and redraw took 3.5 seconds on a Psion Series 3a, and the same-sized sheet on an HP OmniGo 100 takes about 3 seconds

In the end

Overall, both companies have made some well considered improvements over their previous products. Although neither has accomplished a knock-out punch product, they have strengthened their positions as two of the leaders in this field. ◆

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Product data:

Zaurus ZR-5800 /Newton MP-130

Size: 96 x 72 mm/95 x 64 mm.
Pixels: 320 x 240, b/w/320 x 240, b/w
RAM. 2.5 MB/2 MB
User RAM 1.361 MB/1.6 MB
CPU 20 MHz ARM 610 RISC/proprietary 16 bit
ROM size 8 MB/Unspecified
Version: 2.0 (526060)-1/Unspecified
Batteries: 4 AA Alk. 1 CR-2032/2 AA Alk., 1 CR-2032
PC Card: 1 Type II, 325 mA/1 Type II

Product Specific Information:

Newton MP 130:
Cost: $1,199
H0068 fax/modem: $329
Screen. LCD w/backlight
Non-glare writing surface
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Includes: "Newton Backup Utility" version 1.0 (NBU) for Macintosh and Windows computers and cables for both
Zaurus ZR-5800:
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Merlin arrives practically unannounced

OS/2 Ready

Kevin Linfield

OS/2 users around the world are dancing in the streets, and believe me, it has nothing to do with Microsoft going bankrupt (at least, not yet!). Merlin is here!

Officially titled "OS/2 Warp Version 4," this latest edition of OS/2 was released September 25. The shipping package contains a total of four CD-ROMs: the operating system (with BonusPak), a special Device Driver CD, an Application Sampler (which contains 80 beta or demonstration programs, including *Star Office 3.1*, *MGI PhotoWorks*, *Clearlook 1.7* word processor, *Lotus Word Pro* and Back Again/2 backup utility to name but a few popular titles) and *Lotus Notes 4.1*.

Wait a sec

But where the *beep* is the advertising? As I write this it has been over a week and I have yet to find a radio, TV or print advertisement. If you haven't been following developments on the Internet or at a local User Group then you might have missed this launch. Come on, IBM. It pays to advertise your products!

While on the topic of OS/2 it is pleasing to note that the other member of the Warp family is doing well. IBM has announced that Warp Server has increased its server market share from 14.1 per cent to 15.2 per cent during the first half of 1996 and is second only to Novell Netware. The symmetric multiprocessor (SMP) version of Warp Server is now available and IBM expects sales to continue its climb in the corporate field. Check out http://www.software.ibm.com/ for more information.

OS/2, phone home

Although they have been compared to the CB-radio fad of the 1970s, Internet phones have become quite popular. With them, you can converse with people all around the world—in most cases total strangers who share an interest.

Two Internet phone products exist for OS/2: IBM's *Internet Connection Phone* and the shareware product *InterCom*. The nicest thing about IBM's product is that it is *free* from http://www.ics.raleigh.ibm.com/ics/icphone.htm and is available for OS/2, Windows 3.x, and Windows 95—but be warned that as I write this the product is still in the development stages.

InterCom costs US$30, works only under OS/2, but (and this is the biggie) it also lets you transmit video via a black-and-white Connectix QuickCam. You can download *InterCom* from http://revsoft2.is.net/ic/intercom.html

Linfield's List has moved

Linfield's List, my favourite OS/2 freeware page, has moved to http://www.io.org/~to2/freeware.

Please update your *WebExplorer*, *Lynx*, and *Netscape* bookmarks. Also note that as of the time I write this, the Internet FTP site hobbes.nmsu.edu is having some hardware problems, so some links may be temporarily down.

Software updates

My favourite communication software *Zap-O-Comm* has recently been updated. Version 3.01 is now available from Emtec's Web page at http://www.emtec.com/

The author has also released Windows NT and Windows 95 versions so you can use the same excellent program whatever your operating system.

Most of us remember *Galactic Civilizations*, the excellent, native strategy game by Stardock Systems. Finally, after almost two years in development, Stardock has finally released the long-awaited *Avarice: The Final Saga*. *Avarice* is a game in the genre of *Myst* and *The 7th Guest* but supports true 24-bit colour and multiple resolutions (up to 1600 by 1280).

The object of the game is to explore your long-lost uncle's island estate and find out what happened to him, as well as discover what his "opportunity of a lifetime" is. *Avarice* has a suggested retail price of US$70 and should be available in computer stores now.

For more information on *Avarice* and other Stardock games and applications, check out their Web page at http://www.stardock.com/

Warp 4 Canadian User Group special

How many of you are dedicated OS/2 users, but do not belong to a User Group? This next piece of news may make you change your mind.

Due to a special arrangement between the Toronto OS/2 User's Group (TO/2), Canadian OS/2 distributor House of Technology, a number of Canadian OS/2 Retailers and IBM Canada, TO/2 is offering a special OS/2 WARP 4 deal, administered through the Toronto OS/2 User's Group. For a limited time this special deal is making OS/2 Warp 4 available to members of all Canadian PC User Groups (not just OS/2 users groups) at a significantly discounted price.

This deal is *not* open to the public and all orders must be placed by User Group members. The non-upgrade version of OS/2 Warp 4 has a suggested retail of $349 but the special makes it $254. If you already have any previous version of OS/2, the upgrade package is available for $144.

TO/2 notes that there is no profit margin in these prices. The dealer and retailers involved are participating to encourage the growth of OS/2.

For more information, see http://www.io.org/~to2/deals/warp4.html or e-mail warp4deal@ibm.net

Kevin Linfield can be reached via e-mail at linfield@turbonet.net ●

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RAM cram

White's Bytes

Myles White

[illegible] memory types have [illegible] PC readers confused Hopefully this mini-tutorial will help you sort em out

DRAM—dynamic random access memory—comprises the main system memory on most older and some newer PCs It's also known as FPM (fast page mode) DRAM and comes in 80 70 or 60 nanosecond (ns) speeds The lower the number, the faster the memory

DRAM is "dynamic" because it gets zapped with a small electrical current each time it changes state (i.e to read from it or to write to it) and the charging time (latency) reduces its speed FPM DRAM takes two processor wait states (cycles where the CPU does nothing except wait) each time a read or write takes place

Advantages: it's compatible with just about everything and is the least expensive of the types currently on the market or soon to appear Disadvantage: It's the slowest of the memory types.

CDRAM—Cached RAM—was [illegible] Mitsubishi Electronics It [illegible] SRAM (static RAM—see below) [illegible] MB of DRAM within a single chip The onboard SRAM can be used as [illegible] or a buffer and gives the RAM [illegible] mate 15 ns access time [illegible] does not have to send [illegible] external SRAM cache [illegible] mance is improved [illegible]

EDRAM—Enhanced DRAM—[illegible] also incorporates an on-chip SRAM [illegible] Developed by Ramtron International [illegible] of Colorado Springs Colorado By improving the DRAM's performance (with the reduction of parasitic capacitance and an increase in transistor gain) to 35 ns and combining it with a 2 kb 15 ns SRAM cache a DRAM chip with a 15 ns access time is created

In contrast CDRAM uses a much larger 15 kb, 15 ns cache and DRAM with a much slower 70 ns access time

EDO RAM—Extended Data Out RAM—is a form of DRAM that works by extending the time during which data can be read from memory because the available read time doesn't become invalid until an additional signal is sent to the chip By contrast conventional DRAM normally discharges its contents after each read and must be refreshed before another read can occur

[illegible] Ziff Davis [illegible] and *Mac User* [illegible] RAM [illegible] 30 to 50 per cent greater [illegible] standard DRAM [illegible] 1 to 15 per cent [illegible] wait state [illegible] explain the [illegible] EDO RAM [illegible] motherboard's chipset [illegible] support it

RDRAM—Rambus DRAM after the company which developed it—is currently being [illegible] by Toshiba and Samsung It's similar to SDRAM (see below) but faster says Rambus You're more likely to find it appearing on accelerated graphics cards and the new Nintendo N64 but I wouldn't be surprised to see it show up on somebody's PC too

SRAM—static RAM—is powered once and doesn't need to be continually refreshed, unlike dynamic RAM Typically SRAM is used as external (also known as L2) cache memory at speeds of 20 ns or 15 ns Pentium-class CPUs directly tied to 60 ns or 70 ns DRAM waste wait states The traditional solution: place 15 ns or 20 ns static RAM as a buffer between the two A Pentium running its memory bus at 66 MHz however requires only 15 2 ns for each cycle—somewhat of a close shave—which brings us to synchronous SRAM

Older asynchronous SRAM performs reads [illegible]

SDRAM—[illegible] timing, synchro[illegible] running at [illegible] SDRAM can run at the [illegible] CPU/memory bus This [illegible] system without wait states [illegible] down (it's rated at zero wait [illegible] to FPM DRAM's two and [illegible] about 10 per cent faster than [illegible]

SDRAM from Texas Instruments [illegible] of running at bus clock speeds up [illegible] MHz. SDRAM has begun showing up [illegible] tems by Dell and others are certain to follow Your system's chipset must support it explicitly before you can use it

Video memory types

SGRAM—synchronous graphics RAM—is a form of DRAM for graphics controllers and printers that is synchronized to the system clock and, according to one of its manufacturers Fujitsu produces data bandwidth up to five times that of standard DRAM.

continued on page 40

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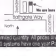

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Mac Rant

David Rosen

Shakespearean theatre, Cupertino-style

Shakespeare's Richard III once declared "Now is the winter of our discontent made glorious summer by this son of York." As we approach winter let's hope Apple can get back in gear and make it to summertime.

During the last three months, we've witnessed an agonizing lack of PowerBooks, a product-engineering group that must be locked in the Tower (since it hasn't launched anything new) and marketing that makes the company's products as attractive as deformed Richard himself.

Customers kept on buying though much to Apple's relief. Autumn has always been a busy time for the company. The back-to-school promotions gain momentum in September, the company's new fiscal year starts in October and of course Comdex (*Much Ado About Nothing*) is held this month in sunny Las Vegas.

Et Tu, Brutus?

One of the busier booths at Comdex will likely be Motorola, yet another major player in the Mac-clone game. The company's computer group introduced a new family of PowerPC-based workstations and servers aimed at the corporate and small- to medium-sized business market. The neat thing about these workstations is that they can run a Mac, Windows NT or Unix operating system (OS).

As readers of this column know, Motorola has had strong ties with Apple for years, most notable of which have been the RISC chip design and the PowerPC. Motorola says that the new Mac-clone line, called StarMax, is the first of a series of advanced Mac OS-based systems.

The entry level StarMax 3000 series with a 603e microprocessor operating at 160 MHz or 200 MHz is available as a desktop or mini tower. All configurations in the 3000 series include a Motorola 28.8 Kbps data/fax modem as well as a software bundle that includes Internet connectivity, office productivity and financial applications, system utilities and additional CD titles. Pricing begins at a reasonable US$1,595.

Titus Andronicus

Say you're doing some art work and need to match some really brilliant colours like crimsons and burgundies. What do you do? If you have a Mac you use ColorSync, of course. ColorSync is Apple's operating system-level technology that lets you have better colour matching between your input devices such as scanners or digital cameras and your output devices such as your computer screen or your colour printer.

Apple recently announced an upgrade to ColorSync that will make your melancholy turn to merriment. The company says the new software has buckets of new features that not only make colour rendering more accurate but also 15 to 20 per cent faster than the previous version.

Perhaps best of all, ColorSync 2.1 is offered free of charge at http://www.macos.apple.com/ in the "Innovative Technologies" section.

To Be or not to Be

The Ranting One was undercover at Cupertino's Peppermill restaurant sipping his hot water recently when he overheard two Apple flacks whispering.

"Have you heard about Be?" one asked in a quiet voice. "No" said the other, looking around nervously, "what's up with Be?" A hush, then the punchline: "...turns out it's not to Be... get it?" The two laughed and continued munching their nutritionally unbalanced lunch.

Before you think this is some kind of rehearsal for a new production of *Hamlet* let us explain. Rumours are flying that Apple is talking with Menlo Park, California-based Be Inc. to either acquire the five-year-old company or license its multiprocessing-capable operating system.

Be Inc. was founded by ex-Apple veep Jean-Louis Gassee and has developed the Be Operating System (BeOS) for a line of yet-to-be released Be personal computers and servers. An earlier version of the BeOS was recently demonstrated on Power Computing's Mac clones at August's MacWorld Boston show.

A persistent rumour is that Apple might replace its own Mac OS 8, code-named Copland, if it could buy Be or license its technology. Apple has faced ongoing criticism over its inability to commit to a reliable delivery date for Copland.

But according to people in the know, the BeOS is not a simple swap for Copland. If the BeOS were to be acquired by Apple, the untested—and unproven—operating system would need a Macintosh interface. In addition, existing Macintosh applications would have to be rewritten to run in the new environment.

At that rate the revised, re-revised, and then re-re-revised Copland schedule might be a better alternative.

All's Well That Ends Well

It's said that once you taste the theatre, you can never leave. The same must be the case with Apple, the Ranting One observes, since an intriguing number of people leave but then later rejoin the company.

Dave Fuller is the latest exec to sign on again. This season Fuller plays the role of

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Lynn Greiner

Learn to take a break

When I've been slaving over a hot keyboard for several hours I seize up My shoulders hunch an I look like Gaylord, the buzzard in *Broom Hilda* cartoons, my neck aches, and my arms and hands sometimes get tingly

Sound familiar? If it happens to you too, you know that it s not only an uncomfortable nuisance, it can really impair productivity Worse yet, it can be a sign of RSI (repetitive strain injury), a problem that's costing businesses (and health-insurance plans) millions each year.

Teleworkers are often at greater risk of RSI than the office-bound. Why? For one thing, our work areas are often anything but ergonomically correct. Keyboard surfaces are too high chairs don t offer proper support, and, in my experience at any rate, we tend to work longer at a stretch before surfacing for a break. It s a recipe for disaster.

Mix it up

Rearranging your workspace can help prevent—or at least, delay—RSI problems.

Sit at your desk, the way you usually sit to use the keyboard, and place your fingers on the keys. Are your elbows bent at a 90 degree angle? If not, you'll need to adjust chair or work surface until they are.

Feet should be flat on the floor, and the monitor positioned so it s a bit below eye level This prevents cricks in the neck. If you're bespectacled, tell your opthamologist you work with computers and he or she may prescribe glasses specially focussed for the monitor-to-eye distance

Mousing for prolonged periods bends the wrist to an unnatural angle (I find my faithful Mouse Pen helps here—the movement is less stressful), and wrist rests may make matters worse by putting pressure on critical spots. Regular breaks with stretching and easing of stresses, can help—if we remember to take them.

This year, at Comdex Canada, I wandered by a booth that offered an entertaining solution to at least some of these difficulties It's a program called *Ergo Break*, from Toronto's Vanity Software, that performs a number of functions

Mouse-feet and other modern measurements

The first thing it does is monitor your work. It logs the number of feet moused, and the number of words typed. it also has a timer. Roughly every hour (or every 900 mouse-feet, or every 1,800 words), it'll interrupt your work and suggest you take a break.

This friendly little nag, in itself, is valuable but *Ergo Break* takes things a step farther When you accept its suggestion, it launches a progam that leads you through a couple of exercises. Each exercise stretches or relaxes some critical body area. There are eye exercises to combat the strain of looking at a screen, stretches to get the kinks out of your neck, arms, and legs and hand exercises to loosen muscles. In all, there are over 20 different exercises, affecting six areas

The exercises were designed by ergonomic experts, and the program makes it quite clear that if any one causes pain, you should stop it immediately and consult a doctor. The experts also designed the sequence and frequency of each exercise.

The software uses QuickTime animations to present each stretch in an entertaining and instructive way. A series of characters performs the routines, and the software also offers motivational slogans and working hints They're well done—I get a kick out of just watching

Each "Ergo Break" consists of two exercises. Each is timed, but it struck me as odd that there's no audible tone at the end of each repetition of an exercise (there are usually two reps) even when it involved keeping

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Learn to ...

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your eyes closed for 15 seconds? There is, however, a little peep at the end of the pair

Some control for you

You can choose the second exercise of a break by activating the Ergo Map which shows a workstation and operator, and lets you pick the body area that needs a stretch or a rest. The program will present a suitable exercise for that area. If the break comes at a critical moment in your thought process, you can tell the program to snooze for a few minutes

This sort of reminder may be too intrusive for you—or it may not be intrusive enough. Another unsubtle technique would be setting an alarm clock—a loud one—in another room, so you have to get up to stifle the racket. Whatever method you choose, the important thing is to take regular breaks and to work in a way that won't demolish your body in the process

Now if only there were an equally simple way to deal with swivel-chair spread!

Lynn Greiner is senior manager computer services, at ISL International Surveys Ltd., and an award-winning technology writer ◆

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Shakespearean theatre ...

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Apple's vice president and general manager of its PowerBook division According to Apple, Fuller will be responsible for design, development, and marketing of PowerBooks and take full responsibility for profits and losses within the division

Fuller returns to Apple from NEC Corp., where he was vice president of laptop computer products By the time you read this, Apple's new "Epic" PowerBooks should be shipping, so Fuller will have a bit of breathing room

The Taming of the Shrew

After years of delays—and the resulting near-absolute entrenchment of Microsoft in the Mac market—Kanata Ontario-based Corel Corp has finally launched its *CorelDraw* suite of applications for the Mac The suite includes the first Macintosh version of Corel's flagship graphics package *CorelDraw*, Corel's *WordPerfect* word processor, and lots of other goodies

CorelDraw 6 Suite has a suggested retail price of about $800 Canadian and upgrades are available for a suggested retail price of $249

The English version is already shipping, while the German French and Japanese versions are due by year-end according to Corel

If you see a great drama unfolding, why not share it? Be clear concise, and fawning, and send your tip to MacRant@aol.com

Please note that due to the volume of mail, individual questions cannot be answered ◆

RAM cram ...

continued from page 36

VRAM—Video RAM—is the oldest of the so-called "dual port" memory types that allow the graphics processor to read from memory and redraw the screen simultaneously, eliminating the problem plaguing single ported memory types (i.e DRAM) where the memory can only be read from or written to at one time (and the graphics engine must wait each time the screen is updated).

With single-port memory the higher the refresh rate the resolution, or the colour depth used, the more times per second the RAMDAC (the device that converts the graphics card memory's digital contents to an analogue signal) will have to read from the frame buffer and the slower the system gets.

WRAM—Window RAM—was developed by Samsung Electronics and is most likely to show up on a Matrox graphics controller and others According to *Advanced Imaging* (June 1996) "...when considering the benefits of WRAM over VRAM memory one must bear in mind that WRAM memory is both faster offering a 50 percent performance increase and less expensive 20 percent lower cost per bit, than VRAM memory"

Associate editor Mylen White writes a weekly column in the Fast Forward section of the *Toronto Star* and is author of *How to Buy a Computer* published by McClelland and Stewart. He may be reached at mylen@io.org or mylen@direct.com and by fax at (416) 425-4644 ◆

Design tips

FOR YOUR FAMILY'S HOME PAGE

Back in the 1940s, families would gather around the radio and listen to spellbinding stories. Then came the age of television and Sunday night in front of *The Ed Sullivan Show* Today's technology-wise family units huddle around the warm glow of the computer screen as they create familial electronic relics.

Thanks to the simplicity of Web-page editors and the marvels of modems and phones Canadian families can now design their very own Web pages with very little fuss. They can keep in touch with aunts uncles parents and siblings scattered around the globe post a family tree that details where people were born who they married, and the names of their children, boast about their hobbies or offer their creative writing to the world and ask site visitors for their comments

Start with a Family Tour

Before you fire up your favourite Web-creation tool do a little Web style "site" seeing. Using your favourite search engine type in some keywords like "family home page" You'll get plenty of hits to start you off

Visit five or six home pages and take note of their design Which sites are most appealing to visit? Select the View Source function on your Web browser and glean hints on setting up similar pages

Once you have a rough idea of what information you will include on your family home page map out a plan. Open your favourite drawing program, or simply scrounge up paper and pencil Then draw a series of rectangles that represent the main topics you want to include on each page of your family's Web site.

For instance you may have a kids page a family-history page and maybe a family art gallery with scanned in drawings or photos

On a separate page write down all the possible details for each topic The kids page might include cartoons, movie reviews sound clips or a list of rainy day activities

The more care you take in planning your family Web page the greater your chances for success

Design Do's and Don'ts

Once you're down to the nitty-gritty of formatting text and placing graphics, here are some things to keep in mind.

Put sparkle in headlines. Don't simply place headlines in a larger type size than other text—give them some real pizzazz! Put your headlines in a different colour then place them on a dark background. Try to create them in a graphics program then save them as GIF files. If your graphics package doesn't support GIF or JPEG formats then download a shareware or freeware version of a graphics converter This will convert your graphic files into the proper format for use on your Web page

Be consistent. It's always irritating to visit a Web site that uses a different design and layout for each of its pages The end result is a jumble of headings text, and pictures with no overall style People want to scan Web pages quickly and easily without having to figure out where elements are on every page Use the same size of headings place navigational icons in the same position on every page standardize on text alignment and graphic placement

Think before you link. Some Web pages go overboard with links Every second word seems to be hyperlinked somewhere else it takes a marathon of mouse clicks to drill down to the real meat of the site Avoid the temptation! Use links sparingly—for new topics footnotes or definitions of unfamiliar terms Always provide a link to your home page On long pages provide a link back to the top so readers won't have to scroll their way back

Group it! Try to organize your Web page content into visually recognizable sections Separate sections with horizontal rules or graphic separators Use the same writing style for all headings and sub-headings.

Be picky about pictures. Ask yourself why you need any graphic If you're stumped for an answer, then forget it! Too many graphics spell clutter

Strive for contrast. Ever visited a Web site with a great background graphic but unreadable text? Make it easy for your readers to scan your pages Keep backgrounds simple and muted. Don't let them fight for attention with type

Sign your pages. Let page visitors know where you can be reached. Include an address tag with your e-mail address Other useful information for electronic signatures are dates when your page was last modified and any copyright information you need to communicate.

Sandra Mingail is a computer educator and consultant. Send comments or questions to mingail@direct.com ●

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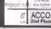


Slow-mouse woes

MacShrink™
by David Rosen

Q Dear Doctor:
I just came back from a holiday ready for work, but my Mac seems to be on a vacation of its own. My mouse is really sluggish and I'm getting increasingly frustrated trying to work. It seems as if I'm getting a workout just trying to move the cursor across the screen. What's going on?

Signed: Lesley in Vancouver

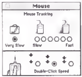
A *Dear Lesley:*
I'd recommend trying a couple of things before you take your Mac on its final trip south. First, the Mouse control panel may have been adjusted during your absence. Work mates or even a temporary replacement employee might have changed your Mac's settings to make the cursor move slower across the screen when you use the mouse. If this is the case, it's a simple matter to reset your Mac.

Select the Control Panels menu item from the Apple menu and find the Mouse file or icon. The icon looks like this.

Double click on the icon and you should

see a dialogue resembling this.

As you can see the radio buttons across the



upper portion of the control panel indicate the "speed" of your mouse from left (slowest) to right (fastest). Adjust the settings so that you're

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My other question is, how do I install NT Workstation so that it doesn't hog up a primary partition? NT doesn't seem to know that Boot Manager exists.

Thank you, Duc-hai Ngo

A *Kevin Linfield responds. You are forgetting that IBM and Microsoft hate each other, and that Microsoft operating systems do not like sharing your computer with other operating systems, such as OS/2 or UNIX. NTFS is an extension of HPFS (which was co-written by IBM and Microsoft back in the good old days of OS/2 1.2), and although OS/2 cannot read or write NTFS partitions, it still knows that they exist. If you were to keep all of your NTFS partitions primary, or make them the last partitions on your hard drive, it would minimize the problems of drive letters changing between operating systems.*

As for NT requiring a primary partition, complain to Microsoft. DOS, Windows 95 and Windows NT all require you to place their startup files on the first primary partition of your hard drive (C:). Other operating systems, such as LINUX or OS/2, are happy booting from a logical partition—as long as you use a special boot program like OS/2's Boot Manager, LINUX's LILO, or V Communications' System Commander.

Merlin, on 110 diskettes!?

Q You mentioned previously that Merlin (OS/2 Warp 4.0) is available only on a CD-ROM. Can Merlin be installed without a CD-ROM drive? I have a laptop running OS/2 Warp that only has a floppy drive.

Thanks, John Griffith

A *Kevin Linfield responds: I'm not sure if this is good news or bad news, but yes, OS/2 Warp 4.0 can be installed from diskettes. You will have to create the disks from a computer with a CD-ROM (running either DOS, Windows, or OS/2) and you will need about 110 disks.*

Before you pass out from shock, recall that

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You Asked Us

Can't WinNT and OS/2 ...

continued from page 44

this includes the BonusPak, all of the network disks, Win-OS/2, and the various device driver disks (Display and Printer). Of course, you will not have access to the three other CD-ROMs that come with Warp 4.0, which include Lotus Notes 4.1, *the Application Sampler, and the Device Driver Pack. A much better (and easier) solution is to beg, borrow, or steal a MicroSolutions BackPack CD-ROM (parallel port CD-ROM). This is how I installed Merlin on my notebook computer.*

Warp to Win95? Nope.

Q Hi Kevin. When I get a new *Computer Player!* in the mail, the first thing I do is turn to your column!

I bet you've been asked this question a hundred times, but here goes. Will the new Warp 4.0 support Win95 applications? Please say yes!

Andrew Doye

A *Kevin Linfield responds: Glad to hear that you like my OS/2 columns.*

About OS/2 4.0 running Win95 apps: I could say yes, but it would be a lie. IBM has publicly announced that it feels that Java is the way of the future and as such, IBM will focus on their operating systems on being 100 per cent Java compliant. Although Warp 4.0 does not support Windows 95 programs (Win32c), it does supports 32-bit Windows programs in the form of Win32s 1.25a. I know that it is not exactly what you are looking for, but it is better than Warp 3.0.

OS/2 on the Zip?

Q I'm wondering if I can install OS/2 on a 100 MB Iomega Zip Disk. The Iomega Zip Drive is connected to the PC's printer port. If this can't be done I would very much appreciate an explanation. It seems to me that the problem is this: the PC won't recognize the Zip Drive (Drive E under Windows) until after DOS is started. But then, OS/2 couldn't run—in fact, I couldn't even get OS/2 loaded on the Zip disk, right?

Thanks in advance for any help, Douglas

A *Kevin Linfield responds: In order to boot from a drive, your BIOS must recognize it. Most (if not virtually all) systems will only boot from one floppy drive (the A drive) and the first primary partition on your first hard drive. This is one of the reasons you cannot boot from a CD-ROM and also why you cannot boot your system from the Zip drive.*

Note that native OS/2 device drivers for using your Zip drive under OS/2 do exist both on Iomega's Web site as well as hobbes.nmsu.edu, so you can still use your Zip drive under OS/2 just as you do under DOS/Windows. You just cannot run the operating system from it.

Looking to upgrade

Q I am currently running OS/2 Warp for Windows. The time has come when I must reorganize my hard disks. I would like to move up to the full version of OS/2 but cost is a factor. I know this the Windows version is available in a CD-ROM only ver-

continued on page 63

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You Asked Us

NUMLOCK, be on!

Q I have a problem with Win95 that nobody can answer Under Win95 the "NUMLOCK" key defaults to off It is annoying, because I am used to it being on after the "boot up" I even placed a small line in my CONFIG SYS file ("NUMLOCK=ON") but didn t get any results

Peter

A *Mylos White replies: You're right. Unlike previous versions of DOS, the DOS 7/Win95 keyboard driver doesn't default to having the NUMLOCK on when you boot up, and the command you tried doesn't work under DOS 7 either. The simplest answer is to toggle the NUMLOCK key on your keyboard manually, but I can understand how this minor item can make you frustrated.*

There are two other answers. Before you resort to the programming solution below—found in the Microsoft Knowledge Base reached through the company's Web site (http://www.microsoft.com/)—check your system's on-board setup.

Many PCs allow you to preset the NUMLOCK status here (although many also do not—of five computers currently in my office one allows setting NUMLOCK in setup and four don't). How you get to the setup screen(s) will vary, depending on the company that produced the software for your system's BIOS—its Basic In/Out System—but the keystroke commands usually appear on your screen shortly after you start the computer. You may have to press the DEL key, a combination of CTRL/ALT/ESC, F1 or some other key or combination of keys.

Note that some systems, even some modern ones, may require a disk to perform setup changes, but by far the vast majority have the routine on-board.

Once in the setup routine, keep in mind that you can't hurt anything if you don't change anything. You may see a menu of choices including standard setup, advanced setup, and advanced chipset setup, but don't panic if one or more are missing because this list changes from system to system. Simply select each choice offered, have a look around, and, if the NUMLOCK status on boot-up option is present, change it, then exit and save the results.

If you can t set the NUMLOCK status in setup here is an alternate, albeit more difficult solution.

1 *Use any pure ASCII text editor (such as* Windows Notepad *or the* DOS Edit *command—not a word processor such as* Word *or* WordPerfect, *which saves documents with hidden formatting commands unless you know how to make it save to "DOS text" or "ASCII text") Create the following text file.* It [illegible] and s[illegible] in the k[illegible] early.

```
a [illegible]
mo[illegible]
m[illegible]
r byte [illegible]
mov [illegible]
in[illegible]

r cx
000f
n NUM ON[illegible]
w
q
```

2 *Save the file in your C:\ root directory as* NUM_ON DEB

3 *Exit the graphical Windows interface to MS DOS or open a DOS window.*

4 *If you re not already there change directory so you re in the C:\ root directory*

5 *Type the following line at the command prompt*

```
debug < num on.deb
```

This creates a program named NUM_ON COM *that toggles the NUMLOCK key on*

6 *While you're at the DOS prompt, open your* AUTOEXEC BAT *file in the DOS text editor (i e type* edit autoexec bat, *then hit Enter) Add this line at the end of the file:*

```
num on
```

7 *Save the file*

6 *Restart your computer.*

This [illegible] writer [illegible] about it) but it works.

Upgrading for surfing speed

Q I have a 486 DX/33 with 4 MB RAM, a U S Robotics 14 4 Kbps fax/modem and a video card with only 512 KB memory If I want to increase the speed to surf the Internet which piece of hardware and in what order do I need to upgrade in order to get the most speed?

Billy Zung

A *Mylos White replies. Start with the modem. Without special phone lines (ISDN) or living in special neighbourhoods (for cable modem service) 28,800 bit per second—28.8 Kbps—models (V.34) are your best bet. If you want to spend more many companies are also offering 33 6 Kbps models, although there still isn't international agreement on standards to determine how that speed is supposed to be done*

Once the data from the Net reaches your computer, however, particularly if you want to take advantage of Web browser plug-in support for audio and movies, for example, then more memory and a faster processor will also help.

The amount of memory on your video card won't affect Internet speed except indirectly. With 512 KB you ll be hard-pressed to get 256 colours at 640 by 480, and many of the pictures available on the Net were created with a higher colour depth than you can see. If you could see more colours, your system would run slower, but the graphic quality would be higher (it's a trade-off). ◆

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Slow mouse woes ...

continued from page 43

happy with the mouse's speed, then close the control panel. If this was the problem, you should see improvements immediately.

Another thing you should try is to clean your mouse. As you drag the mouse across your mouse pad, the mouse ball picks up small debris, such as dust, hair, crumbs, and other nasty bits. Since the mouse ball is in constant contact with the pad, the debris builds up inside the mouse and, eventually, causes slow, jerky cursor movements.

Although somewhat involved, it's not as messy as cleaning a real mouse (sorry—a little computer joke). First, it's important to shut down your Mac. Turn the mouse upside down and locate the sealer ring that keeps the mouse ball secured. Depending on your mouse, you might notice a small dot on the ring that lines up with an "L" (for "locked") at about 2 o'clock. Holding the mouse in one hand, twist the ring counterclockwise stopping at 12 noon—a position sometimes marked "O" (for "open"). If the ring is resistant, try pushing the ring into the mouse gently but firmly while twisting counterclockwise.

Set the ring aside and remove the mouse ball by turning the mouse right-side up again. You'll notice that there are three small rollers inside the mouse itself. Two of these three control the horizontal and vertical movement of the cursor while the third is responsible for keeping the mouse ball steady against the other two. It's very common to see each roller has a thin black stripe on it. This black stripe is the debris that has to be removed.

Dip a cotton swab in a small amount of isopropyl alcohol (available at your local drugstore), squeezing out any excess. Dab each dirty roller with the cotton swab and slowly rotate each roller with the swab. Soon you'll notice that your swab will begin to get dirty as the roller gets clean. Replace the swab as necessary. If you have small fingers, a sharp fingernail can sometimes be used to speed up the process by scraping each roller.

Cleaning each roller can take up to five minutes, more if your mouse is really dirty, so be patient. Reassemble the mouse, plug it back into your Mac if you previously disconnected it and turn your Mac back on. Your mouse should be back to normal. By the way, this method also works on trackball-equipped PowerBooks. Just ensure you shut down your Mac—don't just put it to sleep.

The Doctor

You can reach MacShrink directly by sending your message to MacShrink@eol.com. Your last name and e-mail address will not be printed. Please note that due to the volume of mail, individual questions cannot be answered. All questions become the property of MacShrink™ and David Rosen. ◆

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Why is your backup...

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New Canadian sites arrive by CANOE

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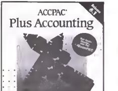

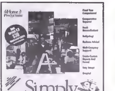

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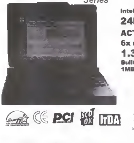

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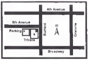

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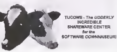

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• • By BRANDI JASMINE • •

It's a pretty common question. New computer users, upon discovering the cornucopia of shareware programs available on the Internet and via BBSs invariably come across the "Please Register this Software" announcement. Most shareware manufacturers estimate that a good return on shareware is around 10 per cent—which means the vast majority of shareware users are taking a free ride

Should you automatically register every piece of shareware you use? Obviously most users do not register their shareware Some users have no concerns over using unregistered software To them it is a nuisance and a possibly risky waste of time

"Suppose the company goes out of business?" asks one BBSer, who is concerned about registering shareware that originated in Peru. "I'm sure not going to have any hope of getting the services I've paid for when the company is so far away Besides, the program is functional as it is, I can cope with a few beg screens."

Others may have a different focus: "I feel guilty knowing I haven't paid my way" says another. "I pretty much understand the program by the time I register it—registering is my way of supporting talent that I've taken advantage of. Besides this company has made several new pieces of software that I've found valuable I feel good knowing I'm supporting development of software that's important to me"

Some considerations

Registering shareware provides you the user with a variety of benefits Often shareware manufacturers provide additional technical support manuals, upgrades or additional features to registered users. The mental health benefits include knowing

continued on page 57

INFO BOX

Some good Internet shareware sites

Happy Puppy Games site
http://happypuppy.com/games/link/index.html
One of the largest collections of games on the Internet. The site is slow and graphics-heavy, though.

TUCOWS (The Ultimate Collection of Winsock Software)
http://www.tucows.com/
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The Virtual Software Library (VSL)
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The most powerful tool available for finding software on the Internet. It consists of two parts: the VSL back-end, which keeps updating a growing database of over 130,000 software files available from the 22 largest shareware and freeware archives on the Internet, and the VSL-front-end, which makes this database available for easy searching and downloading by surfers on the World Wide Web.

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What's brewing with Java?

• • By JACQUES SURVEYER • •

The last thing programmers want to hear these days is Java brewing—no, not because they are already caffeine overdosed, but rather change overwhelmed. There are already many new languages, scripts, applications suites, and software updates to keep up with. Along comes Java, the programming language for the Internet—another new language to learn!

Well, that was the bad news; for a change everything else about Java is pretty good news. As anyone who follows the field of application development is well aware this one-year-old language created by Sun Microsystems (the workstation vendor) and adopted by Netscape, is really shaking the industry.

First as the language for Internet scripts and downloadable applets, Java is already being deployed on some of the snazziest Internet sites. Simply put Java allows Web builders to interact programmatically and intelligently with their Internet users. For example, Java applets allow Fidelity Investments to customize portfolio reports for their existing and potential new customers. Other Java Web builders are quietly hushing up what they're doing for fear of giving away their competitive advantage.

This is only one third of the tale however. There are two other compelling reasons to explain Java is poised to become the software language of preference, likely to vie with (if not displace) C and C++ within the next two years.

Cool Java

The coolest thing about Java is that it is a better combination of C with C++. Java sits about midway between C and C++ in syntax and language functionality. So if you know either of these two languages (or Delphi's Pascal or Ada for that matter) you are well on your way to knowing Java.

From the outset, security portability and reliability were built into Java. C and C++ programmers will notice this right away—the number of reserved words is cut nearly in half from the 100-plus of C/C++ to 48 in Java.

Although most of the remaining syntax follows C pretty closely, there are some major simplifications. Gone are pointers and memory allocation (and all the errors associated with this most perilous of coding). Gone are structs, unions, enums, all preprocessor statements, and even the venerable goto.

In their place come a strong object and class orientation. Put simply, you can't create a Java program without creating a class. The following is the proverbial "Hello World" application written in Java.

continued on page 55

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What's brewing with Java...

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```
public class SayHelloWorld {
    public static void main( String[ ] args) {
        System.out.println("Hello World");
    }
}
```

The "main" program is just one of the methods or functions of the SayHelloWorld class When Java goes to execute a program It looks for the unique main routine as the starting point for the program.

That is the second reason why Java stands to become the dominant language for software development. Java is more flexible Java is not just for scripts and Internet applications, but is also a compiled programming language comparable in speed and functionality to C and C++

Three options

Java programmers however have the flexibility of three methods of use (1) scripting language (looks like a BAT file on steroids) for short, quick development, (2) bytecode interpreted form for compact Web and other Java applets or (3) compiled machine code for optimum speed.

No other programming language offers this richness of choice IBM's Rexx comes close as it is available as a scripting language interpreted code and (on some platforms) as compiled code but Rexx lacks both Web enablement (all major Internet browsers support Javascript and Java applets) and Java's portability

Better still, many software vendors are racing each other to provide "just-in-time" compilers that transform Java bytecode into native machine language that runs very close to C and C++ speeds. The result even more options and flexibility in tuning the speed and performance of Java to meet specific application and platform needs.

Java is highly portable for three reasons First it was designed that way The syntax is simplified but still quite rich Second the bytecode and virtual machine for interpreting Java applets is standardized and well understood. As noted above, many software vendors are taking advantage of the bytecode's simplicity and have already built "just-in-time" compilers that turn the bytecode into machine code for 15-40 times faster applet performance

Third, because Java is the programming language of Internet applications, every major operating-system vendor has pledged to incorporate Java into their operating systems Thus Java scripts and applets will immediately

continued on page 56

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What's brewing with Java...

continued from page 55

run on Win95 WinNT Win 3.x OS/2 Mac OpenVMS OS/400 OS/390 every flavor of Unix, and just about any other operating system worthy of the name

Here come the steak knives

Java likely will replace C and C++ precisely because it is more portable and flexible than either There's more however

Because Java is new it has many built-in statements and/or functions for GUI Internet, security exception handling, and distributed processing. In C or C++ these same functions are spread over many competing, incompatible and non-portable frameworks and libraries.

In addition, Java supports a number of universal cross-platform standards such as HTML for help files and Internet interaction TCP/IP for networking, and JDBC/ODBC for database access

Finally given the huge wave of new tools for Java development, Java will not only usurp much C/C++ development, but also will surely replace Visual Basic and dBase as desktop application development language of choice.

Brewing concerns

Lest I be accused of spooling out a Java spiel let me forewarn readers that there are issues and problems associated with the language.

Performance is the number one concern. Downloading of even modest-sized applets (100-200 KB) can be mind numbing on 28 8 Kbps modems using the Internet Corel, with its *Java Office Suite* is planning to have base modules for word processing spreadsheets and presentations of around 400 KB.

Likewise because Java is absolutely dependent on garbage-collection methods, time-critical performance is at risk I have seen demos of Java screen savers whose smooth display suddenly goes spasmodic and painfully slow when garbage-collection routines are invoked.

Security and privacy issues are always lurking with respect to the Internet Java because it deals directly with Internet admin is particularly vulnerable to privacy questions Nothing prevents an invited Java applet from behaving like a nosy guest and reading all the cookie jar Internet info

Admittedly this potential is quite limited. With a Trojan Horse "*free gift*" offer however a Java applet could prompt for detailed personal information—and the gullible or unwary could inadvertently give away more than their name and address Be clear, though—a user's disk space and private files are still off limits to Java apps.

Java proponents argue that many of these issues are not only being addressed, but also rapidly resolved. In the performance arena, JIT compilers take bytecode and make it go 20-50 times faster Intranets where the growth in Net usage is occurring most rapidly often offer transmission at LAN speed of 10 Mbits second, with many shops converting to FAST Ethernet or ATM at 100 Mbits second or more

In addition a booming cottage industry is developing around compression technologies that allow basic Internet transmissions to be speeded up by 2 5 times. Sun and other third parties are working on improved garbage-collection methods.

And the whole area of Java security and privacy will be "subject to intensive development and refinements for the next ten years"

The last word

Java is a winner It offers software developers the best chance for true, cross-system portability in the complex world of networking multi-databases multiple OS/GUI platforms The idea of being able to develop an applet on a Mac and know that it will run on any flavour of Unix, Windows or just about any operating system is quite compelling

And if performance is an issue there are many solution options Astute software vendors have not failed to take note—witness Corel's conversion of its *Office Suite* into Java form Oracle's adding Java generation to its well regarded *Designer* and *Developer 2000* suite of application tools or SAP's development of Java front ends

In short, the only thing preventing Java from becoming the number-one language for system development this time next year will be the availability of programmers with three or more years of experience in Java. ◆

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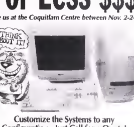

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Canadian cyber-AIDS quilt believed to be world's first

• • By CHRISTOPHER GULY • •

Since May Canada's Names Project Foundation has welcomed 20 daily visitors to its WWW site dedicated to people who have died of AIDS

Believed to be a first of its kind the electronic AIDS quilt features digitized images of the 67 sections that comprise the memorial The names of people who have died from the disease are listed on the quilt alphabetically at a main menu The site's organizers are considering posting individualized memorials

The University of Toronto donated the site to the foundation It can be accessed at http //www cs utoronto ca/ e-names/ ◆

Shareware...

continued from page 52

you are helping to support an independent small business and that you are encouraging innovation Some of the best software available today is sold via the shareware platform

High rates of registration may also lessen the incentive for manufacturers to move to "crippleware" (software with a limited lifespan or functionality) or to add extra 'beg' screens to unregistered versions

There are some cases where it might be prudent *not* to register shareware If the company is unknown with an address in a foreign country asking for currency in cash, and/or there is no added benefit to registering, then buyer beware! Some of these companies may be legitimate but ensure that you have more than one tested method of contact before you mail your registration fees, and avoid using credit cards with untested companies.

Look for companies that have made their shareware available via established software libraries or sites There may not be much an FTP administrator can do to help if a dispute arises but they may be able to alert you or other users to a troubled company Also look for an affiliation with the Association of Shareware Professionals in the registration screen The ASP is a voluntary body but disputes with their members are rare ◆

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這種郵件一定要有固定的收件人，且您所能送信的主機(Host)必須事先申請，申請完成後，您將會有一個自己的網路郵件位址(一般人所指的E-Mail地址就是這個)。這種信件傳送，正常情形下只經過兩部郵件伺服主機(Mail Server)，也就是您這端的郵件伺服主機及收件人端的郵件伺服主機來對傳信件。

當您寫好的電子郵件送到您的郵件伺服主機(ISP端)那邊後，您的任務就算完成了。而您的電子郵件從郵件伺服主機送出所使用的協定稱為SMTP(Simple Mail Transfer Protocol)。如果您不是使用這種協定來傳送，郵件主機則無法接收您所送來的訊息(郵件內容)。

而當有人寫信給您時，您又會使用POP3(Post Office Protocol version 3)從您的郵件伺服主機上來下載屬於您的電子郵件。

所以，當您在發送電子郵件後，剛好也順便收回自己的電子郵件之際，您已經使用了兩種郵件傳送協定(SMTP及POP3)，只是全部由您所使用的郵件軟體所代勞了，所以您感覺不出您在短短的幾秒鐘內用了兩種不同的協定。

一般來說，在大部份的郵件軟體裡SMTP Server或POP3 Server的地址是可以不必寫，因為郵件軟體本身會自動從您的Mail Address(一定要寫)中抓Server的位址出來用的?除非您的ISP使用跟Domain Name不同的郵件主機位址?

不管是SMTP或POP3都是屬於沒有安全性控管的通訊協定(Protocol)，尤其是以SMTP Server最容易，所以要偽造別人的電子郵件是非常的簡單?

三、郵件協定簡介

基本上，電子郵件使用的協定可以用Telnet完全模擬來讀寫郵件。

所以，如果您會用Telnet，您就能手動來讓自己變成一部郵件伺服主機！

在進行Mail Server模擬之前，我們得先知道要使用哪個tcp Port?以下是一些目前較常用的埠號：

服務	TCP埠號	說明
echo	7	echo服務
FTP-data	20	檔案傳輸資料傳輸協定
FTP	21	檔案傳輸控制傳輸協定
telnet	23	遠端終端機
SMTP	25	信件傳輸協定
finger	79	使用者資訊服務
POP3	110	用戶郵局協定
NNTP	119	網路新聞傳輸協定
exec	512	遠端執行協定
login	513	遠端登錄協定
shell	514	遠端Shell
printer	515	UNIX列印

由表中我們知道要模擬SMTP必須使用25的埠號。

您可以使用任何的Telnet軟體(Windows 95已經有內含)來做此模擬的動作?

如果您打算用Windows 95所內建的Telnet，您必須先與您的ISP連線，連線後請先切至MSDOS，然後在DOS環境下執行telnet即可。

以下是筆者的模擬過程(SMTP模擬)

```
220-ms.iconline.com Smail 3.2(#4 1996-Oct-27) ready at Wed, 30 Oct 1996
22:42:35 -0800 (PST)
220 ESMTP supported              ←—支援SMTP
HELO xyz.sadabbs.com             ←—筆者端機的DomainName
250 ms.iconline.com Hello
xyz.sadabbs.com                  ←—郵件伺服主機接受了
MAIL FROM:bill                   ←—寄者自己的郵件位址
250 <bill>... Sender Okay        ←—伺服主機接受此一寄件人
RCPT TO:<jiml@iconline.com>      ←—收件人的郵件位址
250 <jiml@iconline.com> Recipient Okay
←—郵件主機接受此一收件人
DATA
354 Enter mail, end with "." on a line by itself
This is a mail from Bill
250 Mail accepted
QUIT
221 ms.iconline.com closing connection
```

凡左邊有數字的是郵件伺服主機所回應的訊息，沒有數字的則是筆者所輸入的。

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寄件要吧!您可在不需要知道任何密碼之前,您可以寄出任何您想寄的信?

SMTP約有以下幾個命令:

DATA	SEND	SOML	SAML
VRFY	EHLO	HELO	EXPN
HELP	QUIT	RSET	TICK
TURN	VERB	XADR	XSTA
MAILFROM	RCPTTO	SENDFROM	SOMLFROM

我以上要者在實際中只用到了HELO、MAILFROM、RCPTTO、DATA、QUIT幾個命令。

至於POP3(收信用)的指令與SMTP是一樣的,只要您不懂,命令也有點不同?

使用的順序是USER、PASS、STAT、QUIT,以下是筆者的模擬實例(POP3):

```
+OK QUALCOMM Pop server derived from UCB
(version 2.1.4-R3) at ma.iceonline.com
starting
USER jiml in
+OK Password required for jiml
PASS xxxxxxxx(此為密碼)
+OK jiml has 1 message(s)(1031 octets)
STAT
+OK 1 1031
QUIT
+OK Pop server at ma.iceonline.com signing
off
```

要左邊有+的是郵件伺服主機所回應的訊息,沒有+的則是筆者所鍵入的。所以,要寫一個像EUDORA這樣的郵件軟體並不難,是不是太簡單了?

看到這裡,可能有些讀者會想不會要我們到底是哪要用戶端的郵件軟體,還要經過郵件伺服主機?

其實,我們自的電子郵件,並不一定要經過您ISP的Mail Server來代轉?我們可以自己把它(電子郵件)直接傳送到收件者的郵件伺服主機上去?至於怎麼做,在實際的範例您要了呀..)

您要直接連到對方的郵件主機(不經過您的ISP轉送),需您用Telnet要到對方的郵件主機?

您要經過自己的ISP轉送,那您就Telnet要到自己ISP的郵件主機。

直接把郵送到對方的郵件主機有相當大的好處,是您是不再會因自雙方的郵件伺服主機太過忙碌,而導致所創出的電子郵件遭到ISP的延誤?

四、如何辨別假造電子郵件

經過此篇的介紹後,相信大部份的讀者都已經知道電子郵件的不可信賴了吧?所以,當您很愉快的在網路Internet所要您要來的方便之餘,也別忘了,Internet上的所有一切,可要審慎的?

當然,您收的電子郵件一定是有跡可尋的,除非您從來不會信的傳閱,否則要精明的您,也並不要被虛偽騙的?

以下即是筆者您寄的一封用別人名義要寄給我自己的信

```
Return-Path <awang@ms7.hinet.net>
Received from ms7.hinet.net(really
[168.95.4.70])by ma.iceonline.com
via sendmail with esmtp
id<m0v1lhX-00040YC@ma.iceonline.com>
for<jiml@iceonline.com>, Wed, 30 Oct
1996 17 13 43 -0800(PST)
(Smail-3.2 1996-Jul-4 #4 built 1996-Oct-
27)
Received from pm13a15.intergate.bc.ca
([207.34.180.210]) by ms7.hinet.net (8.7.5/
8.7.5) with SMTP id JAA19213 for
<jiml@iceonline.com>, Thu, 31 Oct 1996
09-08 28+0800(CST)
Message-Id
<199610310109.JAA19213@ms7.hinet.net>
X-Sender awang@ms7.hinet.net(Unverified)
X-Mailer WindowsEudoraPro Version 2.1.2
Mime-Version 1.0
Content-Type text/plain,charset iso-8859-
1"
Content-Transfer-Encoding 8bit
Date Wed,30Oct 1996 17 11 59 +0700
To jiml@iceonline.com
From JimLin<awang@ms7.hinet.net>
  test
  Best Regards,
  JimLin
>
-<
```

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由您信中的Received.就可中知道信是由pm13a15.intergate.bc.ca這個位址所寄出的,而此位址的IP為207.34.180.210,寄出的時間為Thu,31 Oct 1996 09-08.28+0800(CST)。

由此可知道這信是由加拿大(bc.ca)所寄出的,但真正的人是在台灣,不可能由加拿大寄出此信,所以研判此信是偽造的?所以,在您收到一封來您很重要的電子郵件時,最好分析一下信的來源,以免受騙上當?

最後要提醒各位讀者,本文所用的範例僅供教學使用,特別是提醒各位讀者明白假的,所以特別要下了一點功夫),要寫出一封天衣無縫的假信,在功力與一般的電腦玩家是可輕易達成的?

五、結語

現在您會您的E-Mail還不適應?

如果您有任何批評指教,歡迎與筆者連繫,以下是我的聯繫方式

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• • By SANDRA MINGAIL • •

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• • By DAVID ROSEN • •

When I was a young lad I drove my mother crazy by dismantling the family's clocks, radios and other small appliances to see how they worked. If I was lucky I could put all the pieces back in the right places before my parents discovered my activities. Sometimes however my allowance was docked when I had extra pieces left over after my explorations.

These days your kids don't have to destroy your appliances to figure out how things work. CyberCraft's *Fun with Electronics* is part CD-ROM instruction disk, part workbench and part electronic-parts store.

The kit comes in a large box (that doubles as a workbench) and includes all the wires, diodes, capacitors, resistors, and other stuff you need to make a small radio, a siren, a burglar alarm, and even a metal detector. All told, there are 25 projects that teach kids the fundamentals of electronics. No dissecting needed here!

The CD-ROM is fun too. It talks to kids in a way that is informative without being condescending and introduces them to the members of the electronics family. From the Transistor Sisters to the very cool green and red LEDs, everything has a place on the workbench or parts cabinet.

The neat thing about *Fun with Electronics* is that the "answers" for each project are on the CD-ROM as well. This means there's no confusion about which part goes where in the design.

The CD-ROM has a quick demonstration of how to build each circuit, as well as an example of how the circuit is used in real life. Projects have three levels of difficulty and explain how electricity is used in everyday products such as the telephone, light bulbs and electric guitars.

One word of caution: the small parts in *Fun with Electronics* could pose a choking hazard to really young kids so Philips recommends the kit for ages 8 and up ◆

INFO BOX

***Fun with Electronics*, from CyberCraft/Philips. Electronics kit with Mac or Windows CD-ROM. $63 (estimated retail price).**
For more information, contact Philips at 1-800-340-7888 or at its Web site at http://www.philipsmedia.com/media/

Can't WinNT and OS/2...

continued from page 45

been able to find in the blue package with paper documentation. Do you know if there is a CD-ROM version available?

Thank you for your trouble,
Malcolm Lennox

Aaron Linfield responds: The special Warp for Windows CD Pak you refer to never came out in a FullPak version. If it contained the full Windows code, IBM would have had to pay Microsoft additional royalties.

With the release of OS/2 Warp 4.0 (Merlin) in September, IBM has consolidated virtually all versions of OS/2 into one package (all except Warp Server). With Warp Version 3.0, IBM had five different versions of OS/2 (for Windows and with Windows in Warp and Warp Connect flavours, plus the CD Pak). With Warp Version 4.0 there will be only one version.

The upgrade price from any prior version of OS/2 is about $150 (try your local store or check Home Computing) and it contains so much new and updated software (including VoiceType Dictation and Navigation) that I feel that it is well worth the price ◆

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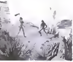
Fighting through time

• • By MARC SALTZMAN • •

ime Commando is a refreshingly different action game.

Created by French development group Adeline Software, and published by Activision *Time Commando* is not another first-person-perspective shoot-em-up game like the multitude of *Doom* clones that have hit the shelves over the past few years. Rather *Time Commando* as a cross between *Alone In the Dark Fade to Black* and *Mortal Combat*.



Project conceiver Frederick Raynal who headed the Infogrames/I-Motion *Alone in the Dark* trilogy is in the driver's seat again and after playing this beautifully detailed game and absorbing the moody soundtrack, lucid memories return of late nights in 1993 wielding my sword at monsters and ghosts in the *Alone in the Dark* mansion all over again.

Virus eradication

In *Time Commando*, it is the future and you are chosen to go back in time to destroy the powerful virus that has invaded the Historical Center's Supercomputer. Collect as many circuits as you can throughout your chronological journeys and race against the clock before this supervirus completely contaminates the system. You will be zapped through 20 levels of nine time periods (Prehistoric, Roman, Feudal Japan, Medieval, Conquistador, Western, Modern Wars, The Future and finally the Virus itself) and battle over 80 different enemies (posing as obstacles manufactured to stall you) with 45 or so weapons in your arsenal.

Although *Time Commando* is primarily a fighting game there are a number of puzzles to solve, cool secrets and hidden rooms. Each 3-D pre-rendered environment is stunning and the fluidity of animation and character movement is second to none. Make sure you also crank up your speakers, since the orchestrated music and vivid sound effects are related to the time period and place you where you're battling, for an all-around engrossing experience.

As in *Alone In the Dark* navigating your body movement and weaponry is remarkably easy.

There are a couple of minor problems with the game mainly to do with the camera-angle perspective view of games of this genre. For example during some battles, you may have to shift your positioning in order to see where exactly you are striking or shooting your opponents. This will invariably cost you some health, since your enemies will strike you during your repositioning unless you are really skillful, or lucky.

Also since the "camera" shifts upon your movements to advance you through the level if you forgot to pick up a power-up or computer chips you will not be able to retrace your steps—a frustrating example of a not so-interactive albeit gorgeous environment.

It's fantastic

Despite these flaws *Time Commando* is a fantastic game worthy of attention from action and adventure fans alike. Even the clever cinematic cut-scenes follow through with the story and enhance the game play. Since *Time Commando* utilizes the Windows 95 auto-start code upon CD-ROM insertion, installation is a snap but you may also play the game in DOS if you wish.

Sony PlayStation fans will also soon have a PSX version by the end of the year to eat up some holiday time in front of the tube.

So despite your platform preference instead of watching one of the science fiction shows again tonight, why not *live* it and go back in time yourself. But be cautious, soldier — this ain't no *Back to the Future*!

Marc Saltzman is the lead author on the book *Internet Games Directory* from Que/Lycos Press, and hosts "Marc's Web Watch," a weekly Internet related radio show heard on 102.1 The Edge in Toronto. ◆

INFO BOX

Time Commando, from Activision. PC CD-ROM. $65.99-$69.99
For more information, visit the official Time Commando page at the Activision Web site at
http://www.activision.com/timecommando/index.html
System Requirements. IBM PC-compatible computer: 8 MB RAM, double-speed CD-ROM drive, 10 MB uncompressed hard disk space, 256-colour VGA 320 x 200 graphics (SVGA 640 x 480 with a VESA local bus or PCI card recommended), 100 per cent Sound Blaster 16-compatible sound card. Windows 95 users must have a Pentium processor and your system must have the latest Windows 95 drivers that can fully support Microsoft's DirectX.

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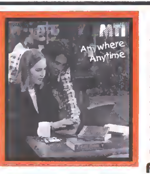

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Grind your mind

• • By ALAN ZISMAN • •

In Microforum's *Mind Grind*, you're an alien looking to take over the Earth. Instead of sending huge flying saucers to wipe out major cities, however, you'll demonstrate your potential to rule the planet by showing off your knowledge of Earth trivia.

Of course this plot, like that of most games, is a fairly thin veneer. *Mind Grind* is a trivia contest for one or two players. The science-fiction overlay simply allows you choose a persona from a collection of comically ugly characters, much like those found in the cantina scene in *Star Wars*.

Players must correctly answer questions in order to successfully pass through a number of challenges. The same categories are used in each level. There are knowledge-based questions about mythology, inventions, sports, and a rather loosely defined horror category. Brain teasers include some fairly subtle questions ("How many eggs can a hungry man eat on an empty stomach" stumped the group I tested it on—the answer is one. Think about it!).

Two categories test players' powers of observation and listening. The questions range from truly trivial to thought-provoking without becoming too frustrating for non-addicted players. The Pop Culture questions are, perhaps, too focused on the 1960s but random Canadian geography questions are a nice touch (and may prove a real challenge for American players!)

Tornado warning

Each level is tailored differently. For the first level players need to get four squares in a row from an eight-by-eight square board. The second involves climbing a forest of pillars (watch out for the tornado which may knock you back a couple of rows). Next comes a maze with 45 locked doors.

The "Platforms of Insight" level starts each player on top of a pile of platters (one for each category). A correct answer removes a platter, an incorrect one adds one. I found this level the hardest—the program seemed to have figured out that I had problems with Horror questions and when I made a mistake added an additional one. At one point, my character stood on a pile of eight Horror questions.

Finally you emerge in a spaceship flying to Earth. Along the way you still need to correctly pass ten trivia stations, while avoiding meteors and other space debris.

If you enjoy trivia games you'll find this a nice twist on the genre. Generally the game's interface is discoverable, but we had to refer to the manual a few times—to learn to use the cursor keys rather than the mouse in the maze for example or to discover that we needed to press F10 to get options to save a game or to quit. And we never could figure out what to do in the spaceship, even with the manual!

The game ran acceptably on its minimum recommended platform, a 486/66 with 8 MB of RAM and a double-speed CD-ROM, but play was improved when tested on a Pentium with more RAM and a faster CD-ROM drive. ◆

INFO BOX

Mind Grind, from Microforum. Win 3.x/Win95 CD-ROM. $54.95.
For more information, contact Microforum by phone at 1-800-465-2323 or (416) 656-6406, or visit http://www.microforum.com/

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Intranets are on their way

• • By PAUL LIMA • •

Just as the Internet is drawing the world together in an electronic global village, intranets may enable individuals within corporations and organizations to share information more effectively than ever

An intranet is a company-wide TCP/IP (Internet protocol) network linking corporate head offices, regional offices and, if desired, suppliers and clients across the country or around the world. This internal Web-like network allows people to search corporate online resources and share applications more seamlessly than ever.

For example, a product manager will be able to create and publish the latest product information, including an online training video, and make the information instantly and globally available to anyone with intranet access rights.

Share and share alike

In addition to enhancing communications, intranets could also help Information System departments lower the cost of delivering and sharing information. When technology saves time and money, corporations take notice.

That's why the commercial Internet/Intranet market is expected to grow tenfold over the next four years to more than US$24 billion, concludes a study by Newton, Massachusetts-based Business Research Group (BRG). The study also reports that Internet/intranet content creation and maintenance spending will grow from US$429.9 million in 1996 to US$6.8 billion in 2000.

An intranet uses open standards and protocols that have emerged from the Internet, making possible such applications as e-mail, groupware, document and information sharing and database access across a corporation. Because intranets are built on open standards, users reap benefits of cross-platform and cross-database support and gain the ability to use innovations created by an entire industry, not just a single vendor.

The monetary angle

While IBM, Novell and Microsoft were late into the Internet game, giving an advantage to companies such as Sun Microsystems and Netscape Communications, they are not content to watch the intranet bandwagon parade by. Novell once built proprietary platforms, but the company has since called for open standards and has incorporated TCP/IP as the standard core protocol on its networking operating systems.

Carolyn G. Rose, senior vice president and general manager of Novell Education, points out that owners of more than 3.5 million installed Novell networks have already invested in 90 per cent of the software infrastructure needed for intranet capability. And the company is offering a series of courses focused on the Internet and intranets and plans to work with Netscape Communications to develop Internet-based training modules.

Meanwhile, Microsoft is marketing its Microsoft Windows NT Server network operating system by emphasizing its Web connectivity and intranet capabilities. Microsoft's SQL Server 6.5 has become a mature enterprise development platform, says Nelson Ruest, director of Sisca Inc.

One of its features is automated intranet publishing capabilities. Information stored in a database that is properly constructed will automatically update a Web site whether internal or external. And *Microsoft Office 97* has become a core piece of Microsoft's comprehensive strategy to help users work together on their organization's intranet.

"Microsoft has built Internet technology into *Office* tools to enable users to create and communicate across their organization more effectively," said a Microsoft spokesperson.

Microsoft Office 97 combines the World Wide Web with desktop productivity applications offering publishing solutions for intranets by integrating a number of Web standards, conventions and protocols into the applications. Included are hyper-link navigation, browsing and Web searching.

Come into my office

With Web technology in *Office 97*, people can locate, view, create and distribute intranet and Internet documents directly from within Office 97 applications—including Word, Excel, PowerPoint presentation graphics, Microsoft Access and the new Outlook desktop information manager.

Not to be outdone by Microsoft, its arch rival in the office suite business, Corel, is creating an office suite of applications using the Java open standards programming language from Sun Microsystems.

These applications will run on PCs and Internet toasters, which are low-cost computer appliances expected to spread like wildfire through corporate offices over the next five years. Linked to the Internet or intranets, these Java-enabled "skinny" PCs do not need software to open files. Instead, when the user clicks on a file displayed in a browser, the "toaster" will open the program and file online and the user can then read or edit the file, download it, add it to a Web site or pass it on by e-mail.

Companies are expected to migrate to intranets due to easy connections with the outside world, availability of multiple competing suppliers and lower overall network costs.

Considering it could save corporations time and money and run on low-cost Internet toasters, the intranet might be considered the greatest innovation since sliced bread. But there is always a downside to implementing new technology.

"A move to new technology begins with the promise of heightened productivity and reduced operating cost. It often ends with dashed hopes and deflated pocket books," says Steve Tait, a marketing manager at Digital Equipment.

Tait suggests that any company moving to an intranet should have a "migration strategy in place" to minimize the risk and expense of implementing new technology. ◆

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Keep your home page in vogue

• • By STEVE BAIN • •

Have you ever been invited to a house party "come-as-you-are" only to discover that you've walked headlong into some kind of pretentious fashion show for the rich and famous? There you are slumming it in your jeans while the rest of them pat their coiffures and straighten their cumberbunds? Well that's a little taste of what it's like when you realize after spending days fine-tuning the shiny new design of your home page or Web site that the design effects you've used are no longer considered in style. Frankly it can be pretty embarrassing. You'd better go home and change before someone you know sees you.

What exactly is cool?

The big question of course: change into what? By the time you've changed everything on your site to match what's currently cool, the trendsetters have warped into another design galaxy. Granted the house-party scenario may not apply here but in terms of Web design where an Internet year is the equivalent of one human week (and a month is a lifetime) you may just never catch up. Unless you know where to look for some design guidance, that is.

While it's true that beauty is in the eye of the beholder if the aim of your site is to impress your audience you'll need more than a cliche to catch their eye. Now the danger here of physically mentioning sites to check out on the Web is that by the time you read this they'll either have disappeared, changed names, or changed designs—or all three. Heeding this disclaimer I won't point you toward any sites on the Web but recommend instead that you perform a search for the phrase "Web site design tips" on Hotbot and stand back while the 2,000 or so responses flood in. In short, *everybody's* a design critic.

Plant treasures for visitors to find

Once the novelty of visiting your Web site has worn off, people visiting your site will expect to see new and different content. To keep your site current, change the information regularly and as often as possible. High hit-rate sites like Microsoft's and Netscape's are changed every single day.

Much can be gleaned from the standard newspaper front-page format. Newspapers feature changing headlines, smiles of the day, changing images, and newsworthy topics. For the corporate Web site the parallels are obvious: press releases, company initiatives, successes, employee of the day and so on.

For the personal Web site perhaps the format isn't as obvious but the same rules of changing content apply and using a little creative ingenuity will help.

One of the treasures you can add to your Web site is CGI (common gateway interface) scripts which detect the capabilities of the browser being used and bounce back the appropriate page information. For example your site can be set to automatically detect if the browser is capable of reading frame information and subsequently cause the server to transmit the appropriate data.

These functions are called preprocessing commands. They can be a collection of up to three-dozen commands that do things such as detect the user's IP address, send time and date information, and selectively send certain parts of the HTML page depending on a user's address or domain name. This CGI stuff isn't just for nerds—it can be pretty cool.

Contrary to popular belief though, adding CGI scripting to your Web page will have little effect on the overall design appearance. Instead, it will add key functionality to your site and functionality will engage your visitors, which is the most important aspect of design. If you're looking to make your site visually appealing, CGI just won't do it for you. What it does provide is the ability for you to implement sophisticated (and cool) functions like site searches.

The latest in slick effects

Anyone who spends time on the Web or is remotely connected with the Web-design community—in other words planet Earth as we know it—will tell you that there are so many design trends emerging at the same time, pinning just one or two down will be your biggest challenge. To make it easier, use this little guide.

Graphical user interface Providing a slick stylized way for your audience to navigate your site is paramount. Buttons, toolbars, logical links and all things clickable can make your site interesting and engaging. A well designed navigation system will make navigating your site a pleasure.

Add animation Add movement by combining and playing a series of animated GIFs. It's not a really new idea but it allows you to

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Keep your home page ...

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create simple visual animations in a format that can be read by most native browser applications Animated GIFs can be assembled using simple shareware applications such as *GIF Builder* and *GIF Construction Set* or using newly available filters for programs like *Photoshop*

Progressive JPG Simple JPG images aren't good enough anymore—progressive JPG is now the format to use It takes the same amount of time to load but gives your audience a rough preview of the image before complete The effect is similar to the interlacing effect of the GIF file format, but more nifty to watch.

Shockwave. There's a lot of hype on the Web about using Shockwave Granted, Shockwave allows you to create great animation effects but it requires users to have a special plugin already installed in their browser—a technological leap for many beginners to the Web

Backgrounds A background will set the mood for the entire site If it a designed well a unique background can carry a theme throughout the site giving the appearance of a closed environment from a user-interface standpoint The background should be designed to be integrated with other elements on the pages by coordinating textures, colour schemes and so on

Sound. Adding sound bites to your site is a tricky task A good portion of people browsing the Web are not equipped to hear them When sound comes to the mainstream however this will be a great way to engage your visitors

Tables. Tables can help give structure to unstructured lists in the same way that columns and lines provide structure to spreadsheets of numbers.

Frames. One of the most bittersweet design structures you can incorporate is frames—bittersweet because its effect is much more dynamic than static single pages but not all browsers can interpret frame data closing them off from your site The answer to this dilemma is to either use preprocessing commands or offer alternate links to a non-frame part of your site

Perfection takes time

It s no surprise that keeping your site current is a full time assignment It's something that will take immense time and creativity to be done well Ultimately taking an individualist s approach to the challenge will produce more satisfying results for you than trying to keep up with the Joneses next door or across the country

Before you know it, they'll be looking to you for trendy fashion tips.

Steve Bain is a writer in Vancouver Canada He can be reached at 72623 1233@compuserve.com or Steve@Helix.net ◆

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